

Fossilium Catalogus

II: Plantae.

Editus a

W. Jongmans.

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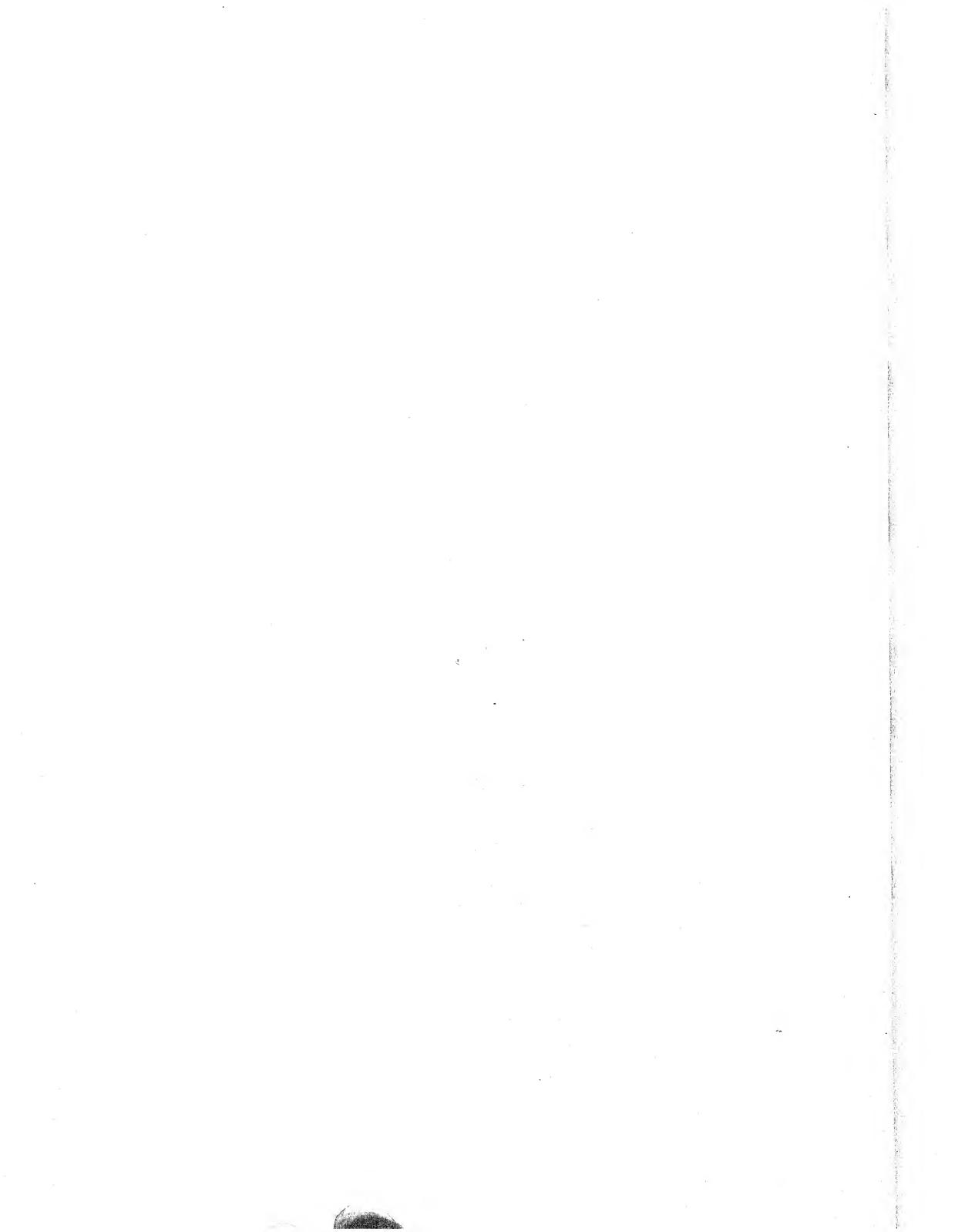
H. N. Dixon.

Muscineae.



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1927





Introductory Remarks.

By far the largest number of entries in the following list will be found to belong to quite recent geological periods; their claim to be considered "fossil" in the true sense being somewhat dubious. The number of undoubted mosses known from rocks earlier than the Tertiary is remarkably small. This is surprising in view of the presence in Carboniferous rocks of Hepaticae, very similar to existing species, having been clearly established (Walton, Carboniferous Bryophyta, 1, in Ann. of Bot., XXXIX, p. 563, t. XIII).

One would have supposed that mosses with their firmer, often almost ligneous tissues would have stood a better chance of preservation than the more delicate stems of the foliose Hepaticae; but this does not appear to have been the case. Certain scale-like structures from the coal measures have been supposed to be moss leaves, but apart from their unusual dimensions the cell structure does not appear to be bryophytic, and they resemble so closely the stipes scales of some modern ferns that the conclusion seems to me inevitable that they must be considered to represent some similar organ of the Carboniferous Fern-allies. *Muscites polytrichaceus* Ren. and Zeiller, however, has strong claims to be considered a true Carboniferous moss, and the same may be said of *Muscites Bertrandii* Lignier.

Records of fossil or prehistoric mosses, scattered throughout botanical and geological literature, often unindexed, are exceedingly hard to trace, and it is fairly certain that I have overlooked numerous sources of information. The list of works given in the Bibliography will however show what papers have actually been consulted, and make it possible for such gaps as exist to be readily filled up.

It may be of some use to make reference to certain works which are of general importance or which have critical remarks on species already recorded. Schimper's *Traité de Paléontologie végétale* (1869) gives a valuable résumé of most of the records of fossil mosses up to the time of its publication. Neuweiler, *zur Interglazialflora der Schweizerischen Schieferkohlen* (1905), has some useful critical notes on the fossil *Hypna* described by Schimper in the above work; and Caspary, in Klebs, *Flora d. Bernsteins* (1906), does the same for many of the records of mosses by Goeppert in his great work on the Amber Flora. Some valuable notes are to be found in Britton and Hollick, *American fossil mosses, etc.* (1907); and Weyland, *Beitr. zur Kenntnis fossiler Moose* (1925) clears up many points left doubtful by Engelhardt und Kinkelin in their *Oberpliocäne Flora und Fauna des Untermaintals* (1908).

I have endeavoured to indicate in general terms the stratigraphical origin of the recorded mosses as far as possible, where such origin is mentioned in the title or elsewhere in the paper. For the most part I have used the terms employed by the au-

thors. These frequently employ different terms for the same geological epoch. Such terms as Pleistocene, Quaternary, Diluvial, Recent, etc., therefore, must not be taken as necessarily denoting different periods.

The taxonomic arrangement of the following catalogue is (with one or two very slight departures) that of Brotherus in the *Musci*, Engler & Prantl, *Pflanzenfamilien*, Ed. I, 1898—1909.

The species under each genus are arranged alphabetically; the entries under each species chronologically. An index of synonyms is given at the end.

My thanks are due for assistance in the compilation of this list in many directions, notably to the Botanical and Geological Departments of the British Museum, especially to Mr. W. N. Edwards of the Geological Department. Also to Mrs. Britton of the New York Botanical Garden, Mons. J. Cardot of Paris, Prof. I. Györffy of Szeged, Hungary, Herr Loeske of Berlin, Dr. Docturowsky of Moscow, and Dr. Jongmans, for information about and transcripts from papers published in their respective countries to which I was unable to obtain access.

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(N. B. The references to the Figures on Plate 22 are given incorrectly in the text, and partially in the Reference to Plates. The references in the Erläuterung der Abbildung are correct with the exception of Figures 22, 23, which certainly

do not represent the same plant as Figs. 18—21, or indeed any species of *Neckera*.)

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— Le Progrès de la Paléobotanique de l'ère des Gymnospermes. — Progressus Rei Botanicae, II, p. 179; 1908. "Quant aux Mousses, il n'en a toujours pas été signalé dans les couches secondaires, les Najadita die Rhétien d'Angleterre appartenir aux Lycopodiacées."

Zmuda, A. J., in Szafer, Ueber eine alt-diluviale Flora in Krystynopol in Wolhynien. — Kosmos, XXXVI, p. 337; 1911.

— Fossile Flora des Krakauer Diluviums. — Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 209; 1914.

Sphagnaceae.

Sphagnum Ehrh.

Sphagnum acutifolium Ehrh.

1896 *Sphagnum acutifolium* aggr. Farneti, R. Ricerche Recent
di briologia palaeont. [Atti del Istit. Bot. della
Reale Univ. di Pavia, Ser. II, vol. V, p. 58.]

1904 *Sphagnum acutifolium* aggr. Weber, C. A. in Mül-
ler G. und Weber. Ueber eine fröhldiluviale...
Flora bei Lüneburg. [Abh. Kgl. preuss. geol.
Landesanstalt und Bergakad., Heft 40, p. 15.]

1909 *Sphagnum acutifolium*. Hartz, N. Bidr. til Dan-
marks tertiaere... Flora. [Danmarks geol. Un-
dersøgelse. II Raekke, No. 20, p. 261.]

1909 *Sphagnum* cf. *acutifolium*. Schuster, J. Palaeo-
bot. Not. aus Bayern. [Ber. bayer. bot. Gesellsch.,
XII, I, p. 58.]

1917 *Sphagnum acutifolium* aggr. Weber, C. A. Die
Pflanzenwelt des Rabutter Beckentons... [Bot.
Jahrb. Syst., LIV, Beibl. Nr. 120, p. 13.]

1918 *Sphagnum* ? *acutifolium*. Beyle, M. Ueber einige Recent
Ablagerungen fossiler Pflanzen der Hamburger Ge-
gend. Zweiter Teil. [Jahrb. der Hamburg. wiss.
Anst., XXXVI, p. 41 ter.]

Sphagnum compactum De Cand.

1828—1844 *Sphagnum compactum*. Brongniart, Ad. No locality
Hist. des végétaux fossiles. Paris, p. 96, tab. X.
or data
given

Sphagnum cuspidatum Ehrh.

1896 *Sphagnum cuspidatum*. Farneti, R. Ricerche di Recent
briologia palaeont. [Atti del Istit. Bot. della
Reale Univ. di Pavia, Ser. II, vol. V, p. 58.]

1904 *Sphagnum cuspidatum* aggr. Weber, C. A. in Mül-
ler G. und Weber. Ueber eine fröhldiluviale...
Flora bei Lüneburg. [Abh. Kgl. preuss. geologisch.
Landesanstalt und Bergakad., Heft 40, p. 15.]

1909 *Sphagnum* cf. *cuspidatum*. Schuster, G. Palaeobot.
Not. aus Bayern. [Ber. bayer. bot. Gesellsch.,
XII, I, p. 58.]

1914 *Sphagnum cuspidatum*. Weber, C. A. Die Mam-
mutflora von Borna. [Abh. nat. Ver. Bremen,
XXIII, Heft 1, p. 14.] Glacial

1917 *Sphagnum cuspidatum*. Rudolph, K. Untersuch. Recent über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 86.]

1924 *Sphagnum cuspidatum*. Burrell, W. H. Pennine Recent Peat. [Naturalist, 1924, p. 148.]

Sphagnum cymbifolium Ehrh.

1869 *Sphagnum cymbifolium*. Schimper, W. P. Traité de Paléontologie Végétale. I, p. 253. Quaternary; Lignites, Dürnten, Switzerland

1895 *Sphagnum cymbifolium*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent submarine peat.

1897 *Sphagnum cymbifolium* or near it. Beck, R., und Weber, C. A. Ueber ein Torflager.... des sächsisch. Erzgebirges. [Zeitschr. d. Deutsch. geolog. Gesellsch., XLIX, p. 666.] Diluvial

1899 *Sphagnum cymbifolium*. Bertrand, C. E. Descr... de charbon papyracé à Prisches en 1859. Ann. Soc. géol. du Nord, XXVIII, p. 180.] Pleistocene

1904 *Sphagnum cymbifolium* aggr. Weber, C. A. in Müller, G. und Weber, Ueber eine frühdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geologisch. Landesanstalt und Bergakad., Heft 40, p. 15.] Preglacial

1905 *Sphagnum cymbifolium*. Neuweiler, E. Die prae-hist. Pflanzenreste Mitteleuropas... [Vierteljahrss. Naturforsch. Ges. Zürich, I, Heft 6, p. 94.]

1909 *Sphagnum cymbifolium*. Hartz, N. Bidr. til Danmarks tertiaere.... Flora.... [Danmarks geol. Undersøgelse II Raekke, No. 20, p. 261.] Interglacial

1912 *Sphagnum* cf. *cymbifolium*. Whitehead, H., Goodchild, H. H., and Reid, C. Some notes on "moorlog" [Essex Naturalist, XVI, p. 56.] Moorlog-submarine peat from Dogger Bank, North Sea

1913 *Sphagnum cymbifolium*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6 Beih., p. 83.] Recent

1917 *Sphagnum palustre* Linn. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 86.]

1923 *Sphagnum cymbifolium*. Baumberger, E., etc., Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, pp. 83, 338.] Quaternary,

1924 *Sphagnum cymbifolium*. Burrell, W. H. Pennine Recent Peat. [Naturalist, 1924, p. 148.]

Sphagnum fimbriatum Wils.

1908 *Sphagnum fimbriatum* (or teres). Stoller, J. Beitr. zur Kenntn. der diluv. Flora... Norddeutschlands. [Jahrb. d. Kgl. preuss. geolog. Landesanstalt, XXIX, p. 119.] Diluvial

1910 *Sphagnum fimbriatum* (or *Girgensohnii*). Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.] Postglacial

1912 *Sphagnum fimbriatum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Faun. Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.] Glacial

Sphagnum Girgensohnii Rüss.

cf. *S. fimbriatum* (1910).

Sphagnum imbricatum (Hornsch.) Rüss.

1914 *Sphagnum imbricatum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 15.] Glacial

Sphagnum intermedium Hoffm.

cf. *S. recurvum*.

Sphagnum Lindbergii Schimp.

1918—20 ? *Sphagnum Lindbergii*. Docturowsky, V. S., and Kudriashov, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial

Sphagnum Ludwigii Schimp.

1869 *Sphagnum Ludwigii* Schimp., Traité de Paléontologie Végétale, p. 252. (*Gymnostomum ferrugineum* Ludw., Foss. Pflanzen aus der Rheinisch Tertiär-Formation, in *Palaeontographica*, VIII, p. 165, tab. 63; 1859.) Tertiary

Note. Schimper places it between *S. cymbifolium* and *S. subsecundum*. It is highly improbable that it is distinct from one of the existing species. Its origin is "dans l'hématite brune de Dernbach (Nassau)". Seward (Fossil Plants, 1, p. 241) expresses a doubt as to whether the generic position can be satisfactorily determined. Schimper, however, had presumably examined the specimen.

Sphagnum magellanicum Brid.

1898 *Sphagnum medium* Limpr. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 138.] Quaternary

1904 *Sphagnum medium* Limpr. Weber, C. A. in Müller, G. und Weber, Ueber eine fröhldiluviale.... Flora bei Lüneburg. [Abh. Kgl. preuss. geologisch. Landesanstalt und Bergakad., Heft 40, pp. 15, 18.] Preglacial

1917 *Sphagnum magellanicum*. Rudolph K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 86.] Recent

1917 *Sphagnum medium* Limpr. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst. LIV, Beibl. No. 120, p. 14.]

Sphagnum medium Limpr.

cf. *S. magellanicum*.

Sphagnum palustre Linn.

cf. *S. cymbifolium*.

Sphagnum papillosum Lindb.

1909 *Sphagnum papillosum*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1914 *Sphagnum papillosum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 15.]

1924 *Sphagnum papillosum*. Burrell, W. H. Pennine Peat. [The Naturalist, 1924, p. 148, tab. X.]

Sphagnum recurvum P. Beauv.

1898 *Sphagnum recurvum*. Andersson. Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 138.]

1904 *Sphagnum* cf. *recurvum*. Weber C. A., in Müller G. und Weber, Ueber eine fröhdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geolog. Landesanstalt und Bergakad., Heft 40, p. 15.]

1911 *Sphagnum intermedium* Hoffm. Dixon, H. N. in Lewis, F. J., The Plant Remains in the Scottish Peat Mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]

1917 *Sphagnum recurvum* var. *parvifolium* Warnst. (as *S. brevifolium* Röll). Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Gesellsch. Wien, IX, p. 87.]

Sphagnum rubellum Wils.

1898 *Sphagnum rubellum*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 139.]

1917 *Sphagnum Wilsoni* Röll. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 87.]

Sphagnum squarrosum Pers.

1896 *Sphagnum squarrosum*. Farneti, R. Ricerche di briologia palaeont. [Atti del Istit. Bot. della Reale Univ. di Pavia, Ser. II, vol. V, p. 57.]

Sphagnum subbicolor Hampe.

1923 *Sphagnum subbicolor*. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, p. 83.]

Sphagnum subsecundum Nees aggr.

1895 *Sphagnum* ? *subsecundum*. Gepp, A. Fossil plant- Recent sub-
remains in peat. [Journ. of Bot., XXXIII, p. 181.] marine
peat.

1908 *Sphagnum subsecundum*. Stoller, J. Beitr. zur Diluvial
Kenntn. der diluv. Flora Norddeutschlands. [Jahrb.
d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.]

Sphagnum teres Aongstr.

1904 *Sphagnum teres*. Weber, C. A., in Müller, G. Preglacial
und Weber, Ueber eine fröhldiluviale Flora
bei Lüneburg. [Abh. Kgl. preuss. geol. Landes-
anstalt und Bergakad., Heft 40, p. 15 bis.]

1908 *Sphagnum teres* (or *fimbriatum*). Stoller, J. Diluvial
Beitr. zur Kenntn. der diluv. Flora Norddeutsch-
lands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt,
XXIX, p. 119.]

1912 *Sphagnum teres*. Stark, P. Beitr. zur Kenntn.
des eiszeitlich.... Badens. [Ber. naturforsch. Ge-
sellsh. Freiburg i. B., XIX, pp. 88, 116.]

1918—20 *Sphagnum teres*. Docturowsky, V. S., and Postglacial
Kudriashov, V. Results of Russian studies on
peat moors. [Reports on Peat, 4.]

1925 *Sphagnum teres*. Dixon, H. N. Moss remains in Interglacial
Russian Peat. (Journ. of Bot., LXIII, p. 370.)

Sphagnum Wilsoni Röll.

cf. *S. rubellum*.

Undetermined species of Sphagnum.

1852 *Cryptothecium antediluvianum*. Hueben, MS., nov.
gen. et sp., in Weber, C. Otto. Die Tertiär-
flora der niederrhein. Braunkohlenformation. [Pa-
laeontographica, II, p. 228.] This is considered by
Schimper as without doubt a species of *Sphagnum*.

1903 *Sphagnum* sp. Range, Paul. Das Diluv. von Lübeck Diluvial
und seine Dryastone. [Zeitschr. f. Naturwiss.,
LXXVI, pp. 191, 256.]

1904 *Sphagnum* sp. Weber, C. A., in Müller, G. und Preglacial
Weber, Ueber eine fröhldiluviale.... Flora bei
Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt
und Bergakad., Heft 40, p. 15.]

1909 *Sphagnum* sp. Hartz, N. Bidr. til Danmarks ter- Interglacial
tiaere Flora. [Danmarks geol. Undersøgelse,
II. Raekke, No. 20, p. 261.]

1910 *Sphagnum* sp. Hesselbo, A. Mosrester fra Diluviet Diluvial
ved Skærumhede. [Danmarks geol. Undersøgelse,
II. Raekke, No. 25, p. 106.]

1913 *Sphagnum* sp. Travis, C. B. and W. G. On plant Postglacial
remains in postglacial gravels at Seaforth, Liver-
pool. [Lancashire Naturalist, 1913, p. 20.]

1914 *Sphagnum* sp. Zmuda, A. J. Fossile Flora des Diluvial
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-

covie d. sc. math. et nat., Sér. B. No. 2 B, p. 248.]

1918 *Sphagnum* sp. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 39.]

1918—20 *Sphagnum* sp. (§ Subsecunda). Docturowsky, V. S. and Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

1920 *Sphagnum* sp. Baker, Frank C. The Life of the Pleistocene or Glacial period. [Univ. of Illinois, Bull., XVII, pp. 207, 211, 276, 280, 377.]

1923 *Sphagnum* sp. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, p. 338.]

Andreaeaceae.

Andreaea Ehrh.

Andreaea Huntii Limpr.

1912 *Andreaea Huntii*. Stark, P. Beitr. zur Kenntn. der eiszeitlichen Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

Andreaea petrophila Ehrh.

1914. *Andreaea petrophila*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Ser. B., No. 2 B, p. 248.]

Andreaea Rothii Web. & Mohr.

1910 *Andreaea Rothii*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.]

Andreaea sp.

cf. *Sporogonites exuberans*.

Dicranaceae.

Ditrichum Timm.

Ditrichum flexicaule (Schleich.) Hampe.

1902 *Ditrichum flexicaule*. Hartz, N. Bidr. til Danmarks senglacial Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.]

1909 *Ditrichum flexicaule*. Hartz, N. Bidr. til Danmarks tertiaere Flora [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1910 *Ditrichum flexicaule*. Hesselbo, A. Mosrester fra Diluvial Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Ditrichum flexicaule* var. *densum*. Dixon, H. N. Late glacial in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1918—20 *Ditrichum flexicaule*. Docturowsky, V. S., and Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

***Ditrichum tortile* (Schrad.) Lindb.**

1915 *Ditrichum tortile*. Reid, C. and E. M. The Pliocene Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.]

Note. With fragment of seta.

Distichium Bry. eur.

***Distichium capillaceum* (Sw.) Bry. eur.**

1900 *Distichium capillaceum*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting of Brit. Assoc., Bradford, Sept., 1900, Pt. II, p. 335.]

1903 *Distichium capillaceum*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone. [Zeitschr. f. Naturwiss., LXXVI, p. 253.]

1907 *Swartzia montana* Lindb. Host, N. O. Preglaciala Dryasförande nära Ystad. [Geol. Fören. Förh., XXIX, p. 232.]

1909 *Swartzia montana* Lindb. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *Swartzia montana* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Distichium capillaceum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *Distichium capillaceum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.]

1914 *Distichium capillaceum*. Weber, C. A. Die Mammutflora von Borna. [Abh. nat. Ver. Bremen, XXIII, Heft I, p. 15.]

1920 *Distichium capillaceum*. Baker, Frank C. The Life of the Pleistocene or Glacial period. [Univ. of Illinois, Bull. XVII, pp. 334, 335, 377.]

Note. The text reads: —

Dichelyma capillaceum (see *Distichium capillaceum*)

Distichium (Dichelyma) capillaceum. As both species occur at the present day in the U. S. A., there is nothing to indicate which name is the species intended.

Ceratodon Brid.**Ceratodon purpureus** (L.) Brid.

1898 *Ceratodon purpureus*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.] Quaternary

1902 *Ceratodon purpureus*. Hartz, N. Bidrag til Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1909 *Ceratodon purpureus*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

1910 *Ceratodon purpureus*. Hesselbo, A. Mosreste fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 ? *Ceratodon purpureus*. Dixon, H. N. in Warren, S. H., A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1914 *Ceratodon purpureus* var. *paludosus* Warnst. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

Blindia Bry. eur.**Blindia acuta** (Huds.) Bry. eur.

1910 *Blindia acuta* var. *trichodes* Braithw. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.] Postglacial

1912 *Blindia acuta*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Dicranella Schimp.**Dicranella cerviculata** (Hedw.) Schimp.

1914 *Dicranella cerviculata*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math., et nat., Sér. B, No. 2 B, p. 248.] Diluvial

Dicranella squarrosa (L.) Schimp.

1914 *Dicranella squarrosa*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math., et nat., Sér. B, No. 2 B, p. 88.] Diluvial

Dicranella sp.

1853 *Dicranum simplex* Goepp. & Menge. Ueber die Amber Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.]
Note. Compared by the authors to *Dicranum Schreberi* (*Dicranella*). 2*

1907 *Dicranella* sp. Hartmann, F. Die Fossile Flora Diluvial von Ingramsdorf. Inaug. Dissert. Breslau, 1907, p. 14.

Oreoweisia De Not.

Oreoweisia serrulata (Funck) De Not.

1912 *Oreoweisia serrulata*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

Dichodontium Schimp.

Dichodontium pellucidum (L.) Schimp.

1904 *Dichodontium pellucidum*. Bell, A. M. Implementiferous Sections at Wolvecote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1910 *Dichodontium pellucidum*. Dixon, H. N. Some Postglacial "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 103.]

1923 *Dichodontium pellucidum* var. *fagimontanum* Quaternary Schimp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz; geotechn. Ser., Lief. 8, p. 333.]

Dichodontium subpellucidum (Goepp. & Menge.)

1853 *Dicranum subpellucidum* Goepp. & Menge in Goepp., Amber H. R. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.]

Dicranoweisia Lindb.

Dicranoweisia crispula (Hedw.) Lindb.

1912 *Dicranoweisia crispula*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitl. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

Oncophorus Brid.

Oncophorus virens (Sw.) Brid.

1910 *Oncophorus virens*. Hesselbo, A. Mosrester fra Diluvial Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Oncophorus virens*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

Dicranum Hedw.

Dicranum Bergeri Bland.

1912 *Dicranum Bergeri* (as *Dicranella Bergeri*, *Iapsu calamii*). Stark, P. Beitr. zur Kenntn. der eis-

zeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Dicranum Bonjeani De Not.

1909 *Dicranum Bonjeani*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

1910 *Dicranum Bonjeani*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist. 1910, p. 103.] Postglacial

Dicranum congestum Brid.

1910 *Dicranum congestum*. Hesselbo, A. Mosrester fra Diluvial Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

Dicranum fuscescens Turn.

1853 *Dicranum fuscescens*. Goeppert, H. R. Ueber die Amber Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.] Note. "Von *D. fuscescens* nicht zu unterscheiden". Goepp. l. c.

Dicranum Mühlenbeckii Bry. eur.

1912 *Dicranum Mühlenbeckii* (as *Dicranella lapsu calamii*). Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.] Glacial

Dicranum parietinum.

1909 *Dicranum parietinum*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] There is no moss known of this name, and an error is presumably; possibly *Hylocomium parietinum* is intended.

Dicranum Sauteri Bry. eur.

1912 *Dicranum Sauteri* (as *Dicranella lapsu calamii*). Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Dicranum scoparium (L.) Hedw.

1909 *Dicranum scoparium*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

1912 *Dicranum scoparium*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 116.] Glacial

1914 *Dicranum scoparium* var. *alpestre* Milde. Zmuda, Diluvial
A. J. Fossile Flora des Krakauer Diluviums. [Bull.
int. Acad. Sci. Cracovie d. sc. math. et nat.,
Sér. B., No. 2 B, p. 248.]

***Dicranum Scottianum* Turn.**

1910 *Dicranum Scottianum*. Dixon, H. N. Some "Neo- Postglacial
lithic" Moss remains from Fort William. [Ann.
Scott. Nat. Hist., 1910, p. 105.]

***Dicranum strictum* Schleich.**

1911 *Dicranum strictum* ? Dixon, H. N. in Lewis, F. J. Iceland
The Plant Remains in the Scottish Peat Mosses. peat; recent
Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]
Note. Almost certainly this species; but the
specimen was unfortunately lost in the post before
the determination was confirmed.

***Dicranum subflagellare* Goepp. & Menge.**

1853 *Dicranum subflagellare*. Goepp. & Menge in Goepp., Amber
H. R. Ueber die Bernsteinflora. [Monatsber. d.
Berliner Akad., 1853, p. 458.]
Note. The authors say "cf. *D. flagellare*".
Syn. *Dicranites subflagellare* Caspary e Klebs,
Flora d. Bernsteins. [Abh. Kgl. preuss. geol.
Landesanst., N. F., Heft 4, p. 55, t. VIII, f. 47;
1903.] There seems no adequate ground for re-
moving this from *Dicranum*.

***Dicranum subpellucidum* Goepp. & Menge.**

cf. *Dichodontium subpellucidum*.

***Dicranum subscoparium* Goepp. & Menge.**

1853 *Dicranum subscoparium*. Goepp. & Menge in Goep- Amber
pert, H. R. Ueber die Bernsteinflora. [Monatsber.
d. Berliner Akad., 1853, p. 458.]
Note. The authors say "cf. *D. scoparium*".

***Dicranum* spp. undetermined.**

1897 *Dicranum* sp. (Eudicranum). Beck, R. und Weber, Diluvial
C. A. Ueber ein Torflager des sächsischen
Erzgebirges. [Zeitschr. d. Deutsch. geol. Gesellsch.,
XLIX, p. 666.]

1898 *Dicranum* sp. Andersson, Gunnar. Stud. öfver Quaternary
Finlands Kvarterflora. [Bull. de la Com-
mission géol. de Finlande, Tome 2, No. 8, p. 136.]

***Dicranites* Klebs.**

1903 *Dicranites* gen. nov. Klebs in Caspary, Fl. d.
Bernsteins [Abh. Kgl. preuss. geol. Landesanst.,
N. F., Heft 4, p. 52; 1903.]

Klebs gives no diagnosis of this genus, but states that it consists of species not certainly referable to any existing species, while clearly belonging to Dicranaceae in the widest sense.

Dicranites Casparyi Klebs.

1903 *Dicranites Casparyi* Klebs, op. et loc. cit., t. VII, Amber f. 42—45.

Compared with such erect-leaved forms as *Dicranum Scottianum*, and *Campylopus flexuosus*. The leaf apex figured, with a few short teeth, does not suggest a species of this alliance at all.

Dicranites obtusifolius Casp. & Klebs.

1903 *Dicranites obtusifolius* Casp. & Klebs, op. cit., Amber p. 54, t. VII, f. 46.

The form of the leaf with toothed sheathing base strongly suggests *Eucladium verticillatum*; but the leaf apex is figured as rough, and described as "an der stumpfen Spitze sägezähnig".

Dicranites subflagellare Caspary.

cf. *Dicranum subflagellare*.

Dicranodontium Bry. eur.

Dicranodontium longirostre (Starke) Bry. eur.

1912 *Dicranodontium longirostre* var. *alpinum* Milde. Glacial Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Fissidentaceae.

Fissidens Hedw.

Fissidens adiantoides (L.) Hedw.

1910 *Schistophyllum adiantoides* Brid. Hesselbo, A. Mos- rester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

Fissidens cristatus Wils.

1923 *Fissidens decipiens* De Not. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz., geotechn. Ser., Lief. 8, p. 333.] Quaternary

Fissidens julianus Sav.

1898 *Schistophyllum julianum* (Sav.) Lindb. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. Quaternary

[Bull. de la Commission géol. de Finlande, Tome 2,
No. 8, p. 138.]

Fissidens osmundoides (Sw.) Hedw.

1910 *Fissidens osmundoides*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

1912 *Fissidens osmundoides*. Stark, P. Beitr. zur Kenntn. der eiszeitl. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

1924 *Fissidens osmundoides*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog.-Geol. Staatsinstitut, Hamburg, Heft VI, p. 7.]

Fissidens taxifolius (L.) Hedw.

1923 *Fissidens taxifolius*. Baumberger, E., etc. Die Quaternary diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 333.]

Pottiaceae.

Hymenostomum R. Br.

Hymenostomum microstomum (Hedw.) R. Br.

cf. *Muscites confertus*. (*Hymenostomum trichostomum* Goepp., Douin, les Mousses et les Hepaticques Fossiles, p. 114, is a lapsus calami for *H. microstomum*).

Weisia Hedw.

Weisia conferta Schimp.

1845 *Muscites confertus* Goepp. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. I, p. 112; t. VI, figs. 29—31.

1869 *Weisia conferta* Schimper, Traité de Pal. Végét. 1, p. 243.

Note. Caspary writes that he has not examined the specimen, but from the description and figures he is inclined to think it the same thing as *Dicranites Casparyi* Klebs. The relation to *Weisia* seems very doubtful.

Gymnostomum Hedw.

Gymnostomum calcareum Bry. germ.

1923 *Gymnostomum calcareum*. Baumberger, E., etc. Quaternary Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 333.]

Gymnostomum ferrugineum Ludw.

cf. *Sphagnum Ludwigii*.

Eucladium Bry. eur.**Eucladium verticillatum** (L.) Bry. eur.

1925 *Eucladium verticillatum*. Adam, Boros. Two fossil Recent tufa species of Mosses from the Diluvial Lime Tufa of Hungary. [Bryologist, XXVIII, p. 32.]

Trichostomum Hedw.**Trichostomum substrictum** Goepp. & Menge.

1853 *Trichostomum substrictum* Goepp. & Menge. Ueber Amber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.]

Note. Compared by the authors with "*Trich. strictum*"; but, as Schimper remarks, they do not even say whether they refer to *T. strictum* Sw. or *T. strictum* Bry. eur. The affinity is very doubtful.

Trichostomum subpolystichum Goepp. & Menge.

1853 *Trichostomum subpolystichum* Goepp. & Menge op. Amber et loc. cit.

Note. Compared by the authors with "*Trich. polystichum*". No such moss is known. Schimper suggests a slip for *T. polyphyllum* (*Ptychomitrium*); but a moss in amber is not likely to have a very close affinity with a purely rupestral species such as this.

Tortella Limpr.**Tortella fragilis** (Hook. f. & Wils.) Limpr.

1909 *Mollia fragilis* Lindb. Hartz, N. Bidrag til Danmarks terciaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

Tortella inclinata (Hedw. f.) Limpr.

1904 *Tortella inclinata*. Weber, C. A., in Müller, G. Preglacial und Weber. Ueber eine fröhldiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 15.]

Tortella tortuosa (L.) Limpr.

1902 *Mollia tortuosa* Lindb. Hartz, N. Bidr. til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.]

1910 *Mollia tortuosa* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1914 *Tortella tortuosa*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.]

Didymodon Hedw.**Didymodon alpigena** Vent.

1912 *Didymodon alpigena*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Didymodon rigidulus Hedw.

1911 *Didymodon rigidulus*. Stoller, J. Beitr. zur Kenntn. Diluvial der diluv. Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanst., XXIX, p. 123.]

Didymodon rubellus (Hoffm.) Bry. eur.

1909 *Barbula rubella* Lindb. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1910 *Barbula rubella* Lindb. Hesselbo, A. Mosrester Quaternary fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Barbula rubella* Lindb. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Didymodon tophaceus (Brid.) Jur.

1922 *Didymodon tophaceus*. Adám, Boros. Magyar Botanikai Lapok, Budapest, p. 71.

1925 *Didymodon tophaceus*. Adám, Boros. Two fossil species of Mosses from the Diluvial Lime Tufa of Hungary. [Bryologist, XXVIII, 29.]

Barbula Hedw.**Barbula fallax** Hedw.

1913 *Barbula fallax*. Travis, C. B. and W. G. On plant remains in post-glacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.]

Barbula icmadophila Schimp.

1912 *Barbula icmadophila*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Barbula paludosa Schleich.

1912 *Barbula paludosa*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Barbula subcanescens Goepp. et Ber.

cf. *Muscites apiculatus* Goepp. et Ber.

Phascum L.**Phascum cuspidatum** Goepp.

1853 *Phascum cuspidatum* Goepp., H. R. Ueber die Amber Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 458.]

Note. Schimper considers the identification as doubtful.

Desmatodon Brid.**Desmatodon latifolius** (Hedw.) Bry. eur.

1914 *Desmatodon latifolius* var. *muticus* Brid. Weber, Glacial
C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 16.]

Tortula Hedw.**Tortula norvegica** (Web.) Wahl.

1903 *Tortula aciphylla* Hartm. Range, Paul. Das Diluv. von Lübeck und seine Dryastone. [Zeitschr. f. Naturwiss., LXXVI, p. 254.]

1910 *Tortula norvegica*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Tortula aciphylla* var. *muuronata* Sendtn. Dixon, H. N., in Warren, S. H., A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *Tortula aciphylla* Hartm. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 16.]

Tortula ruralis (L.) Ehrh.

1907 *Tortula ruralis*. Holst, N. O. Preglaciala Dryas-förande nara Ystad. [Geol. Fören. Förh., XXIX, p. 232.]

1910 *Tortula ruralis*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1914 *Tortula ruralis*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 16.]

Tortula species.

1914 *Tortula* sp. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 16.]

Encalypta Schreb.**Encalypta alpina** Smith.

1910 *Leersia alpina* Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

Encalypta rhabdocarpa Schwaegr.

1902 *Encalypta rhabdocarpa*. Hartz, N. Bidr. til Danmarks senglaciaale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.]

1909 *Leersia rhabdocarpa* Lindb. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *Encalypta rhabdocarpa?* Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *Encalypta rhabdocarpa.* Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *Encalypta rhabdocarpa.* Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. u. Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Grimmiaceae.

Glyhomitrium Brid.

Glyhomitrium Cockerelleae Britt. et Hollick.

1907 *Glyhomitrium Cockerelleae* Britt. & Hollick, American Fossil Mosses, in Bull. Torr. Bot. Cl. 34: 140; tab. 9, figs. 6, 6a. Cum fructu. Tertiary Shales, Florissant, Colorado

Coscinodon Spreng.

Coscinodon humilis Milde.

1912 *Coscinodon humilis.* Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Faun. Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, 89.] Glacial

Grimmia Ehrh.

Grimmia alpicola Sw.

1912 *Schistidium alpicola* var. *rivulare* Limpr. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Grimmia anodon Bry. eur.

1912 *Grimmia anodon.* Stark, P., op. et loc. cit. Glacial

Grimmia apocarpa (L.) Hedw.

1910 *Grimmia apocarpa.* Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Quaternary

Grimmia elatior Bruch.

1912 *Grimmia elatior.* Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Grimmia elongata Kaulf.

1912 *Grimmia elongata.* Stark, P., op. et loc. cit. Glacial

Grimmia ericoides Lindb.cf. *Rhacomitrium canescens*.**Grimmia funalis** (Schwaegr.) Schimp.1912 *Grimmia funalis*. Stark, P., op. et loc. cit. Glacial**Grimmia hypnoides** Lindb.cf. *Rhacomitrium lanuginosum*.**Grimmia incurva** Schwaegr.1912 *Grimmia incurva*. Stark, P., op. et loc. cit. Glacial**Grimmia subelongata** Goepp. et Menge.1853 *Grimmia subelongata* Goepp. & Menge in Goepp., Amber H. R., Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 459.]

Note. Compared with *G. elongata* Kaulf. Schimper rightly remarks that it is very doubtful if any species allied to *G. elongata* would occur in the pine forests and under the conditions where amber was formed.

Grimmia torquata Hornsch.1912 *Grimmia torquata*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]**Grimmia species.**1908 *Grimmia* sp. Dixon, H. N., in Lewis, F. J. The Recent Plant Remains in the Scottish Peat Mosses. Part III. [Trans. Roy. Soc. Edinb., XLVI, p. 44.]1910 *Grimmia* sp. Dixon, H. N. Some "Neolithic" Moss Postglacial remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

Note. Of the *trichophylla* type, but with cells nearly all incrassate and sinuose to the base. Probably either *G. Mühlenbeckii* or *G. robusta*.

Rhacomitrium Brid.**Rhacomitrium affine** Lindb.1910 *Rhacomitrium heterostichum* var. Dixon, H. N. Postglacial Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]**Rhacomitrium canescens** (Weis) Brid.1910 *Rhacomitrium canescens*. Dixon, H. N., op. et Postglacial loc. cit.

1910 *Grimmia ericoides* Lindb. Hesselbo, A. Mosrester Quaternary fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1922 *Rhacomitrium canescens*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne, p. 12. Recent

Rhacomitrium fasciculare (Schrad.) Brid.

1922 *Rhacomitrium fasciculare*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne, p. 12. Recent

Rhacomitrium heterostichum (Hedw.) Brid.

1922 *Rhacomitrium heterostichum*. Jessen, Knud, og Rasmussen, R., op. et loc. cit. Recent

Rhacomitrium hypnoides (L.) Lindb.

1908 *Rhacomitrium lanuginosum* Brid. Dixon, H. N., Recent in Lewis, F. J. The Plant Remains in the Scottish Peat Mosses. Part III. [Trans. Roy. Soc. Edinb., XLVI, pp. 40, 48, 55.]

1910 *Grimmia hypnoides* Lindb. Hesselbo, A. Mosrester Diluvial fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1914 *Rhacomitrium hypnoides* Lindb. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

1924 *Rhacomitrium lanuginosum* Brid. Burrell, W. H. Recent Pennine Peat. [The Naturalist, 1924, p. 148, tab. X.]

Rhacomitrium patens (Brid.)

1912 *Dryptodon patens* Brid. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Orthotrichaceae.

Anoectangium Hedw.

Anoectangium compactum Schwaegr.

1912 *Anoectangium compactum*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 88.]

Amphidium Nees.

Amphidium lapponicum (Hedw.) Schimp.

1912 *Amphidium lapponicum*. Stark, P. op. cit., p. 89. Glacial

Zygodon Hook. & Tayl.**Zygodon viridissimus** (Dicks.) R. Br.

1913 *Zygodon viridissimus*. Travis, C. B. and W. G. Postglacial
On plant remains in post-glacial gravels at Sea-
forth, Liverpool. [Lancashire Naturalist, 1913,
p. 50.]

Ulota Mohr.**Ulota curvifolia** (Wahl.) Brid.

1912 *Ulota curvifolia*. Stark, P. Beitr. zur Kenntn. Glacial
der eiszeitlich. Fl. und Fauna Badens. [Ber. na-
turforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Orthotrichum Hedw.**Orthotrichum diaphanum** (Gmel.) Schrad.

1912 *Orthotrichum diaphanum*. Dixon, H. N., in Warren, Late glacial
S. H. A late Glacial stage in the Lea Valley.
[Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Orthotrichum species.

1907 *Orthotrichum* sp. Hartmann, F. Die Fossile Flora Diluvial
von Ingramsdorf. Inaug. Dissert. Breslau, p. 25.

Splachnaceae.**Splachnum** L.**Splachnum ampullaceum** L.

1912 *Splachnum ampullaceum*. Stark, P. Beitr. zur Glacial
Kenntn. der eiszeitlich. Fl. und Fauna Badens.
[Ber. naturforsch. Gesellsch. Freiburg i. B., XIX,
p. 89.]

Splachnum sphaericum (L. f.) Sw.

1912 *Splachnum sphaericum*. Stark, P., op. et loc. cit. Glacial

Bryaceae.**Leptobryum** Wils.**Leptobryum pyriforme** (L.) Wils.

1910 *Leptobryum pyriforme*. Hesselbo, A. Mosrester Quaternary
fra Diluviet ved Skaerumhede. [Danmarks geol.
Undersøgelse, II Raekke, No. 25, p. 106.]

Pohlia Hedw.**Pohlia commutata (Schimp.) Lindb.**

1910 *Pohlia commutata*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *Webera commutata* Schimp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Pohlia cruda (L.) Lindb.

1902 *Pohlia cruda*. Hartz, N. Bidr. til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial

1912 *Webera cruda* (L.) Bruch. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Pohlia cucullata (Schwaegr.) Bruch

1910 *Pohlia cucullata*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *Webera cucullata* (Schwaegr.) Schimp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Pohlia longicolla (Sw.) Lindb.

1912 *Webera longicolla* (Sw.) Hedw. Stark, P., op. et loc. cit. Glacial

Pohlia Ludwigii (Spreng.) Lindb.

1912 *Webera Ludwigii* Schimp. Stark, P., op. et loc. cit. Glacial

Pohlia nutans (Schreb.) Lindb.

1902 *Pohlia nutans*. Hartz, N. Bidr. til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1904 *Pohlia nutans*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1909 *Pohlia nutans*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial

1910 *Pohlia nutans*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1913 *Webera nutans* Hedw. Travis, C. B. and W. G. On plant remains in post-glacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.] Postglacial

1914 *Pohlia nutans*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracoviae d. sc. math. et nat., Sér. B, No. 2B, p. 248.] Diluvial

1917 *Webera nutans* Hedw. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.]

Pohlia sphagnicola (Bry. eur.) Lindb.

1912 *Webera sphagnicola* Schimp. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Mniobryum Limpr.

Mniobryum albicans (Wahl.) Limpr.

1888 *Webera albicans* Schimp. Reid, C. and Ridley, Glacial H. N. Fossil Arctic Plants from Hoxne, in Suffolk. [Geol. Mag. Decade III, Vol. V, p. 444.]

1904 *Mniobryum albicans*. Bell, A. M. Implementiferous Late glacial Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1910 *Pohlia albicans* Lindb. Hesselbo, A. Mosrester Quaternary fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Mniobryum albicans* var. *glaciale* Limpr. Stark, P. Glacial Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

1914 *Mniobryum albicans*. Zmuda, A. J. Fossile Flora Diluvial des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 248.]

Anomobryum Schimp.

Anomobryum concinnum (Spruce) Lindb.

1912 *Anomobryum concinnum*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

Bryum Dill.

Bryum capillare L.

1912 *Bryum capillare*. Dixon, H. N. in Warren, S. H. Late glacial A late Glacial Stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Bryum cirratum Hoppe et Hornsch.

1910 *Bryum cirratum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Bryum ?cirratum*. Dixon, H. N. in Warren, S. H. Late glacial A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Bryum crispulum Hampe.

1910 *Bryum crispulum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

Bryum cyclophyllum (Schwaegr.) Bry. eur.

1910 *Bryum cyclophyllum*. Hesselbo, A., op. et loc. cit. Quaternary

Bryum Duvalii Voit.

1905 *Bryum ?Duvalii*. Neuweiler, E. Zur interglazialen Flora der schweiz. Schieferkohlen. [Ber. d. Zürcher Bot. Gesellsch., XV, p. 98.] Interglacial

1914 *Bryum ?Duvalii*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.] Glacial

1923 *Bryum Duvalii*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 84.] Quaternary

Bryum elegans Nees.

1912 *Bryum elegans*. Stark, P. Beitr. zur Kenntn. der eiszeitl. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.] Glacial

Bryum erythrocarpum Schwaegr.

1904 *Bryum erythrocarpum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

Bryum intermedium Brid.

1912 *Bryum ?intermedium*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

Bryum lacustre Brid.

1914 *Bryum lacustre*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B. No. 2 B, p. 248.] Diluvial

Bryum microstegium Bry. eur.

1904 *Bryum cf. microstegium*. Weber, C. A., in Müller, G. und Weber. Ueber eine frühdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial

Bryum neodamense Itzigs.

1910 *Bryum neodamense* var. *ovatum* Lindb. and Arn. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *Bryum neodamense*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

***Bryum pallens* Swartz.**

1888 *Bryum pallens*. Reid, C. and Ridley, H. N. Fossil Arctic Plants from Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.]

1903 *Bryum pallens*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 253.]

1912 *Bryum pallens*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1913 *Bryum pallens*. Travis, C. B. and W. G. On plant remains in post-glacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.]

1923 *Bryum pallens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.]

1923 *Bryum pallens*. Gams, H. Interglacial bryophytes [B. 2, Geol. Karte d. Schweiz, Geotechn. Ser., Lief. 8, p. 521.]

***Bryum Schleicheri* Schwaegr.**

1912 *Bryum Schleicheri* var. *latifolium* Schimp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Gesellsch. Freiburg i. B., XIX, p. 89.]

***Bryum ventricosum* Dicks.**

1902 *Bryum ventricosum*. Hartz, N. Bidrag til Danmarks senglacial Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.]

1903 *Bryum pseudo-triquetrum* Schwaegr. Range, Paul. Das Diluv. von Lübeck und seine Dryastone. [Zeitschr. f. Naturwiss., LXXVI, p. 253.]

1909 *Bryum ventricosum*. Hartz, N. Bidr. til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1909 *Bryum ventricosum*. Nørregaard, E. M. Et senglacialt ... Vandløb fra Dejbjerg Bakker. [Meddel. fra Dansk geol. Foren., No. 15, p. 325.]

1910 *Bryum ventricosum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

1910 *Bryum ventricosum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *Bryum ventricosum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *Bryum pseudotriquetrum* Schwaegr. Weber, C. A. des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.]

1914 *Bryum pseudotriquetrum* Schwaegr. Weber, C. A. Glacial
Die Mammutflora von Borna. [Abh. Nat. Ver.
Bremen, XXIII, Heft 1, p. 17.]

Bryum species.

1890 *Bryum* sp. Dawson, Sir Wm., and Penhallow, D. Pleistocene
P. On the Pleistocene Flora of Canada. [Bull.
Geol. Soc. Amer., I, p. 315.]

1902 *Bryum* sp. Hartz, N. Bidrag til Danmarks sengla- Late glacial
cial Flora og Fauna. [Danmarks geol. Under-
søgelse, II Raekke, No. 11, p. 15.]

1904 *Bryum* sp. Weber, C. A. in Mueller, G. u. We- Preglacial
ber. Ueber einer fröhldiluviale und vorglaciale
Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Lan-
desanstalt und Bergakad., Heft 40, p. 16.]

1910 *Bryum* sp. Hesselbo, A. Mosrester fra Diluviet Quaternary
ved Skaerumhede. [Danmarks geol. Undersøgelse,
II Raekke, No. 25, p. 106.]

1914 *Bryum* sp. Weber, C. A. Die Mammutflora von Glacial
Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1,
p. 17.]

1923 *Bryum* sp. Baumberger, E., etc. Die diluvialen Quaternary
Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz,
geotechn. Ser., Lief. 8, pp. 145, 333.]

"*Bryon crispatum* Grand Eury ist *Autophyllites fur-*
catus Grand 'Eury." Jongmans, in Med. van de
Rijksopspor. van Delfstoffen, No. 3 (1911), p. 441.

Mniaceae.

Mnium L.

Mnium affine Bland.

1898 *Mnium affine*. Andersson, Gunnar. Stud. öfver Quaternary
Finlands Kvartärflora. [Bull. de la Com-
mission géol. de Finlande, Tome 2, No. 8, p. 137.]

1899 *Mnium affine*. Bertrand, C. E. Descr. d'un échan- Pleistocene
tillon de charbon papyracé [Ann. Soc.
géol. du Nord, XXVIII, p. 190.]

1902 *Astrophyllum cuspidatum* (L.) Lindb. Hartz, N. Late glacial
Bidrag til Danmarks senglaciale Flora og Fauna.
[Danmarks geol. Undersøgelse, II Raekke, No. 11,
p. 11.]

1904 *Mnium affine*. Bell, A. M. Implementiferous Late glacial
Sections at Wolvercote (Oxfordshire). [Quart.
Journ. Geol. Soc., LX, p. 124.]

1909 *Astrophyllum cuspidatum* (L.) Lindb. Hartz, N. Interglacial
Bidrag til Danmarks tertiaere Flora. [Dan-
marks geol. Undersøgelse, II Raekke, No. 20,
p. 260.]

1914 *Mnium affine* var. *integrifolium* Lindb. Zmuda, Diluvial
A. J. Fossile Flora des Krakauer Diluviums.
[Bull. int. Acad. Sci. Cravovie d. sc. math. et
nat., Sér. B., No. 2B, p. 248.]

Mnium antiquorum Card et Dixon.

1915 *Mnium antiquorum* Card. & Dixon in Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 52, Fig. 3.] See also Bryologist, XIX, p. 51 (1916).

Mnium cinclidioides (Blytt) Hüben.

1897 *Mnium cinclidioides*. Beck, R., und Weber, C. A. Ueber ein. Torflager des sächsisch. Erzgebirges. [Zeitschr. d. deutsch. geol. Ges., XLIX, p. 666.]

1898 *Mnium cinclidioides*. Andersson, Gunnar. Stud. Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 187.]

1912 *Mnium cinclidioides*. Stark, P. Beitrag zur Kenntn. der eiszeitlich. Fl. u. Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.]

1914 *Mnium cinclidioides*, Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.]

Mnium curvatum (Lindb.) Limpr.

1910 *Astrophyllum curvatum* Lindb. Hesselbo, A. Mos- rester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

Mnium cuspidatum (L.) Leyss.

1909 *Astrophyllum silvaticum* Lindb. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1910 *Astrophyllum silvaticum* Lindb. Hesselbo, A. Mos- rester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

Mnium hornum L.

1895 *Mnium hornum*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.]

1898 *Mnium hornum*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.]

1910 *Mnium hornum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

1922 *Mnium hornum*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faærøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

Mnium hymenophylloides Hüben.

1910 *Mnium hymenophylloides*. Sukačev, V. N. Sur la flore arctique près du village Demianskóe, gouv. Tobolsk. [Bull. Acad. Impér. Sci. St. Pétersbourg, 1910, p. 460, figs. 1—3.]

1910 *Astrophyllum hymenophylloides* (Hueben.) Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Quaternary

1914 *Mnium hymenophylloides*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 16.] Glacial

1918—20 *Mnium hymenophylloides*. Docturowsky, V. S. and Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial

***Mnium marginatum* (Dicks.) P. Beauv.**

1910 *Astrophyllum marginatum* (Dicks.) Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

***Mnium medium* Bry. eur.**

1909 *Astrophyllum medium* (Bry. eur.) Lindb. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

Note. The author gives no indication of the characters by which he distinguishes it from *M. affine*. It was presumably not fruiting.

***Mnium punctatum* (L.) Hedw.**

1888 *Mnium punctatum*. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from Hoxne, in Suffolk. [Geol. Mag., Dec. III, Vol. V, p. 444.] Glacial

1898 *Mnium punctatum*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary

1905 *Mnium punctatum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas... [Vierteljahr. Naturforsch. Ges. Zurich, L, Heft 6, p. 40.] Pleistocene

1911 *Mnium punctatum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish Peat Mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831 bis.] Iceland peat; recent

1912 *Mnium punctatum* (or *M. subglobosum* Bry. eur.). Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1914 *Mnium punctatum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.] Glacial

1923 *Mnium punctatum*. Baumberger, E., etc. Die diluviale Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz., geotechn. Ser., Lief. 8, pp. 145, 333.] Quaternary

***Mnium riparium* Mitten.**

1914 *Mnium riparium*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

Note. The identification, in the presumable absence of inflorescence, appears to me extremely doubtful.

Mnium rostratum Schrad.

1904 *Mnium rostratum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial
 1912 *Mnium rostratum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

Mnium rugicum Laur.

1904 *Mnium rugicum*. Weber, C. A., in Mueller, G. und Weber. Ueber eine fröhldiluviale und vor-glaciale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial
 1912 *Mnium rugicum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Flora und Fauna Badens. [Ber. Naturforsch. Ges. Freiburg i. B., XIX, p. 26.] Glacial
 1914 *Mnium rugicum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

Mnium subglobosum Br. Eur.

1909 *Astrophyllum subglobosum* (Bry. eur.) Lindb. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial
 1912 *Mnium subglobosum* (cf. *M. punctatum*).

Mnium undulatum (L.) Weis.

1905 *Mnium undulatum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. Naturforsch. Ges. Zurich, I, Heft 6, p. 40.] Pleistocene
 1909 *Astrophyllum undulatum* (L.) Lindb. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

Mnium species.

1892 *Mnium* sp. Boulay, N. Flore pliocène du Mont-Dore, p. 44.
 Note. According to the author the generic position is very doubtful. *Fissidens* and *Hypnum* are also suggested.

Cinclidium Sw.

Cinclidium arcticum Schimp.

1910 *Cinclidium arcticum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1914 *Cinclidium arcticum*. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 17.] Glacial

***Cinclidium latifolium* Lindb.**

1910 *Cinclidium latifolium*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

***Cinclidium stygium* Sw.**

1907 *Cinclidium stygium*. Dixon, H. N., in Lewis, F. J. Peat Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]

1914 *Cinclidium stygium*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 248.] Diluvial

***Cinclidium* species.**

1925 *Cinclidium* sp. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Recent

Aulacomniaceae.

***Aulacomnium palustre* (L.) Schwaegr.**

1895 *Aulacomnium palustre*. Gepp, A. Fossil plant-remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent sub-marine peat

1902 *Sphaerocephalus palustris* (L.) Lindb. Hartz, N. Bidrag til Danmarks senglaciiale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1903 *Aulacomnium palustre*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 269.] Diluvial

1904 *A. palustre*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1907 *A. palustre*. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.] Peat

1910 *Sphaerocephalus palustris* (L.) Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *A. palustre*. Stark, P. Beitr. zur Kenntn. der eiszeitl. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1914 *A. palustre* var. *imbricatum* Bry. eur. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1917 *A. palustre*. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 82.] Recent

1917 *A. palustre*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.]

1918—20 *A. palustre*. Docturowsky, V. S., and Kudriashov, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial

1922 *A. palustre*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faererne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

1923 *A. palustre*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

1924 *A. palustre*. Burrell, W. H. Pennine Peat. [The Recent Naturalist, 1924, p. 148.]

Aulacomnium turgidum Schwaegr.

1910 *Aulacomnium turgidum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1914 *A. turgidum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

Meeseaceae.

Paludella Ehrh.

Paludella squarrosa (L.) Brid.

1896 *Paludella squarrosa*. Farneti, R. Ricerche di briol. palaeont. al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 53.] Glacial

1914 *P. squarrosa*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1918 *P. squarrosa*. Beyle, M. Ueber einige Ablagerungen fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 40.] Glacial

1925 *P. squarrosa*. Dixon, H. N. Moss Remains in Recent Russian Peat. [Journ. of Bot., LXIII, p. 370.]

Amblyodon P. Beauv.

Amblyodon dealbatus (Dicks.) Beauv.

1912 *Amblyodon dealbatus*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

1913 *A. dealbatus*. Travis, C. B. and W. G. On plant remains in postglacial gravels at Seaforth, Liverpool. [Lancashire Naturalist, 1913, p. 50.] Postglacial

Meesea Hedw.

Meesea Albertini Bry. eur.

1912 *Meesea Albertini*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

Meesea longiseta Hedw.

1905 *Meesea longiseta*. Neuweiler, E. Zur Interglazialfl. der schweiz. Schieferkohlen. [Ber. d. schweiz. bot. Ges., Heft 15, Beilage. Neunter Ber. d. Zürich. bot. Ges., p. 96.] Interglacial

1909 *M. longiseta*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial

1912 *M. longiseta*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

1923 *M. longiseta*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 334.] Quaternary

Meesea trichodes (L.) Spruce.

1910 *Meesea trichodes*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *Meesea trichodes*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

Meesea triquetra (L.) Aongstr.

1896 *Meesea triquetra*. Farneti, R. Ricerche di briol. palaeont. al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 52.] Glacial

1898 *M. triquetra*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary

1904 *M. triquetra*. Geinitz, C., und Weber, C. A. Ueber ein Moostorflager der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial

1904 *M. triquetra* var. *timmoides* Sanio. Geinitz und Weber, op. et loc. cit. Postglacial

1908 *Meesea tristicha* (Funck) Bry. eur. Weber, C. A. Die Moostorfschichten zwischen Sarkau und Cranz. [Engler's Bot. Jahrb., XLII, p. 43.] Pleistocene

1908 *M. tristicha* var. *timmoides* Sanio. Weber, C. A. op. cit., pp. 41, 43. Pleistocene

1909 *M. tristicha* (Funck) Bry. eur. Schuster, J. Palaeobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, I, p. 58.] Schieferkohlen

1910 *M. triquetra*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *M. tristicha* (Funck) Bry. eur. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.] Glacial

1914 *M. triquetra*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B., No. 2 B, p. 248.] Diluvial

1923 *M. triquetra*. Gams, H. Interglacial bryophytes. [Die Schieferkohlen der Schweiz, B. 2, Geol. Karte d. Schweiz, geotechn. Ser., Lief. 8, p. 521.] Interglacial

1923 *M. triquetra*. Baumberger, E., etc. Die diluvialen Quaternary Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 334, 521.]

1925 *M. triquetra*. Dixon, H. N. Moss Remains in Recent Russian Peat. [Journ. of Bot., LXIII, p. 370.]

Catoscopiaceae.

Catoscopium Brid.

Catoscopium nigritum (Hedw.) Brid.

1912 *Catoscopium nigritum*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.]

Bartramiaceae.

Plagiopodopsis Britton & Hollick

Plagiopodopsis Scudderi Britton et Hollick.

in Bull. Torr. Bot. Cl. 42:10 (1915); Figs. 1, 2. Tertiary Shales of Cum fructu. Florissant, Colorado, U. S. A.

Conostomum Sw.

Conostomum tetragonum (Dicks.) Lindb.

1914 *Conostomum boreale* Sw. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

Philonotis Brid.

Philonotis calcarea (Br. Eur.) Schimp.

1911 *Philonotis ?calcarea*. Dixon, H. N. in Lewis, F. J. Iceland The plant remains in the Scottish Peat Mosses. peat; recent Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.]

Philonotis coespitosa Wils.

1918 *Philonotis coespitosa*. Heim, Arnold, and Gams, H. Interglacial Interglaz. Bild. bei Wildhaus. [Vierteljahrsschr. naturf. Ges. Zürich, LXIII, p. 27.]

Philonotis fontana (L.) Brid.

1888 *Philonotis fontana*. Reid, C. and Ridley, H. N. Glacial Fossil Arctic Plants from... Hoxne, in Suffolk. [Geol. Mag., Dec. III, Vol. V, p. 444.]

1904 *P. fontana* var. *ampliretis* Dixon. Bell, A. M. Late glacial
Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, 124.]

1909 *P. fontana*. Nørregaard, E. M. Et senglacialt ... Late glacial
fra Dejbjerg Bakker. [Meddel. fra Dansk geol. Förening, No. 15, p. 326.]

1910 *P. fontana*. Hesselbo, A. Mosrester fra Diluviet Diluvial
ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1911 *P. fontana*. Dixon, H. N. in Lewis, F. J. The Iceland
plant remains in the Scottish Peat Mosses. Part peat, recent
IV. [Trans. Roy. Soc. Edinb., XLVII, pp. 830, 831.]

1912 *P. fontana*. Dixon, H. N. in Warren, S. H. Late glacial
A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *P. fontana*. Zmuda, A. J. Fossile Flora des Diluvial
Krakauer Diluviums. [Bull. int. Acad. Sci. d. sc. math. et nat., Sér. B, No. 2B, p. 249.]

1915 *P. fontana*. Reid, Clement and E. M. The Pliocene Pliocene
Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.]

1923 *P. fontana* var. *glacialis*. Baumberger, E., etc. Quaternary
Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz., geotechn. Ser., Lief. 8, p. 521.]

Philonotis seriata Mitt.

1912 *Philonotis seriata*. Stark, P. Beitr. zur Kenntn. Glacial
der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Philonotis tomentella Mol.

1912 *Philonotis alpicola* Jur. Stark, P. Beitr. zur Glacial
Kenntn. der eiszeitlich Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 89.]

1914 *Philonotis tomentella*. Weber, C. A. Die Mammut- Glacial
flora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 18.]

Philonotis species.

1911 *Philonotis* sp. Dixon, H. N. in Lewis, F. J. Iceland
The plant remains in the Scottish Peat Mosses. peat, recent
Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]
Note. Leaf with very stout nerve; much eroded.
May be an *adpressa* form.

Timmiaceae.

Timmia Hedw.

Timmia austriaca Hedw.

1912 *Timmia* cf. *austriaca*. Stark, P. Beitr. zur Kenntn. Glacial
der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

Timmia bavarica Hessl.

1910 *Timmia bavarica*. Hesselbo, A. Mosrester fra Diluvial luviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

Timmia megapolitana Hedw.

1912 *Timmia megapolitana*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Timmia norvegica Zett.

1910 *Timmia norvegica*. Hesselbo, A. Mosrester fra Diluvial luviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

1912 *T. norvegica*. Dixon, H. N. in Warren, S. H. Late glacial A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *T. norvegica*. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 18.]

Polytrichaceae.**Catharinaea** Ehrh.**Catharinaea subundulata** (Goëpp. et Menge.)

Broth. in Engl. & Prantl, die natürl. Pflanzenfam., Ed. 2, Bd. XI, 2 Hälfte, p. 523 (1925).

1853 *Polytrichum subundulatum* Goëpp. & M. in Goëppert, H. R. Ueber die Bernsteinflora, p. 459. (*Atrichum subundulatum* Schimp., Traité de Pal. Végétale, 1, p. 244).

Note. Neither Schimper nor any of the later writers seem to comment on this. It is presumably not specifically distinct from *C. undulata*.

Catharinaea undulata (L.) Web. et Mohr.

1922 *Catharinaea undulata*. Jessen, Knud og Rasmussen, Recent Et Profil Gennem en Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

Oligotrichum Lam. et De Cand.**Oligotrichum hercynicum** (Huds.) Lindb.

1912 *Oligotrichum hercynicum* Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Pogonatum P. Beauv.**Pogonatum suburnigerum**

(Goëpp. et Menge.) Dixon, comb. nov.

1853 *Polytrichum suburnigerum* Goëpp. & M. in Goëppert, H. R. Ueber die Bernsteinflora, p. 459.

Note. Schimper (Traité de Pal. Végétale, I, p. 244) points out that the remains being solely leaves, the specific position must be doubtful.

Pogonatum urnigerum (L.) P. Beauv.

1902 *Pogonatum urnigerum*. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial
 1904 *P. urnigerum*. Weber, C. A. in Mueller, G. und Weber. Ueber eine frühdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanst. und Bergakad., Heft 40, p. 16.] Early glacial
 1914 *P. urnigerum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

Polytrichum L.

Polytrichum alpinum L.

1912 *Polytrichum alpinum*. Stark, P. Beitr. zur Kennntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial
 1914 *P. alpinum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

Polytrichum attenuatum Menz.

1909 *Polytrichum attenuatum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
 1922 *P. attenuatum*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

Polytrichum commune L.

1897 *Polytrichum commune*. Beck, R. und Weber, C. A. Ueber ein Torflager des sächsisch. Erzgebirges. [Zeitschr. d. deutsch. geol. Ges., XLIX, p. 666.] Diluvial
 1909 *P. commune*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial
 1910 *P. commune*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary
 1914 *P. commune*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial
 1917 *P. commune*. Rudolph, K. Untersuch. über den Aufbau böhmisch. Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 85.] Recent
 1922 *P. commune*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent
 1924 *P. commune*. Burrell, W. H. Pennine Peat. [The Recent Naturalist, 1924, p. 148.] Recent

Polytrichum Florissanti Knowlton.

1916 (?) *Polytrichum Florissanti* Knowlton n. sp. A Review of the fossil plants from Florissant, Colorado. [Proc. United States Nat. Mus., LI, p. 245; t. 12.]

Note. A seta with capsule; no leaves found. The author compares with *P. juniperinum*, but there can hardly be any reason for selecting this species as the nearest ally. The reference to *Polytrichum* itself is not certain. From the figure it certainly looks like this genus.

Polytrichum gracile Menz.

1914 *Polytrichum gracile*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.]

Polytrichum juniperinum Willd.

1904 *Polytrichum juniperinum*. Weber, C. A., in Müller, G. Ueber eine fröhildiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanst. und Bergakad., Heft 40, pp. 15, 16.]

1909 *P. juniperinum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1912 *P. juniperinum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, 116.]

1914 *P. juniperinum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.]

Polytrichum piliferum Schreb.

1910 *Polytrichum pilosum* Floercke (sic.). Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.]

Note. I presume that this refers to *P. pilosum* Neck., which is synonymous with *P. piliferum* Schreb.

Polytrichum sexangulare Floerke.

1914 *Polytrichum sexangulare*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.]

1915 *P. sexangulare*. Camus, F. Sur les mousses trouvées dans un mammouth. [Compt. Rend. Acad. Sci. Paris, CLX, p. 842.]

Polytrichum strictum Banks.

1909 *Polytrichum strictum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *P. strictum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *P. strictum* var. *alpestre* Limpr. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

1923 *P. strictum*. Baumberger, S., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 84.] Quaternary

Polytrichum subseptentrionale Goepp. et Menge.

1853 *Polytrichum subseptentrionale* Goepp. & M. in Amber Goeppert, H. R. Ueber die Bernsteinflora. [Monatsber. d. Berliner Akad., 1853, p. 459.]

Note. Schimper (Traité de Pal. Végétale, I, p. 244) remarks on this that in view of the material available the affinity must be problematic, and even the genus may be doubtful.

Polytrichum species.

1898 *Polytrichum* sp. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.] Quaternary

1907 *Polytrichum* sp. Holst, N. O. Präglacialsala Dryas-förande nära Ystad. [Geol. Fören. Förh., XXIX, p. 232.] Preglacial

1908 *Polytrichum* sp. Dixon, H. N. in Lewis, F. J. The plant remains in the Scottish Peat Mosses. Part III. [Trans. Roy. Soc. Edinb., XLVI, p. 48.] Quaternary

1910 *Polytrichum* sp. Sukačev, V. N. Sur la trouvaille de la flore arctique fossile près du village Demianskoe [Bull. Acad. Impér. Sc. St. Petersbourg, 1910, p. 460.]

1910 *Polytrichum* sp. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 106.] Quaternary

1912 *Polytrichum* sp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1918—20 *Polytrichum* sp. Docturowsky, V. S., and Kuriaschev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Glacial

Hedwigiaceae.

Hedwigia Ehrh.

Hedwigia albicans (Web.) Lindb.

1914 *Hedwigia albicans*. Zmuda, A. J. Fossile Fl. des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 248.] Diluvial

Fontinalaceae.

Fontinalis (Dill.) L.

Fontinalis antipyretica L.

1914 *Fontinalis antipyretica*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1919 *F. antipyretica*? Gadeceau, E. Les forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc. LIII, p. 295.]
Note. Many fragments; almost certainly *F. antipyretica*.

Fontinalis hypnoides Hartm.

1898 *Fontinalis hypnoides*. Andersson, Gunnar. Stud. öfver Finnlands Kvartärfloara. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.]

Fontinalis pristina Lesq.

1883 *Fontinalis pristina* Lesq. in Hayden, F. V. Tertiary Flora of United States. [Rep. of U. S. A. Geol. Survey, VIII, p. 135; t. 21, f. 9.] See also Britton & Hollick, Bull. Torr. Bot. Club, 34: 139; t. 9, f. 2, 2 a.
Note. Britton and Hollick say the determination is questionable, Knowlton (Rev. of the Fossil Plants from Florissant ..., p. 245) states that precisely similar structures have proved to be avian feathers. It is, to say the least, exceedingly dubious whether it is a moss.

Fontinalis Sismondana Schimp.

1869 *Fontinalis Sismondana* Schimp., Traité de Pal. Végétale, I, p. 245. Figured by Sismonda, E. Matériaux pour servir à la Pal. d. terr. tert. du Piémont, 1865, t. XXXI bis.

Note. Schimper remarks that this is very close to *F. antipyretica*. He does not suggest wherein the difference consists.

? *Fontinalis Tournallii* (Brongn.) Schimp.

1828—38 *Muscites Tournallii* Brongn. Ad. Histoire des Miocene Végétaux Fossiles, p. 93, t. X. *Fontinalis* (?) *Tournallii* Schimp., Traité de Pal. Végétale, I, p. 245, t. VI, figs. 14, 15, 16 (nec Saporta, Végét. d. S. E. de la France, tab. X).

Note. Schimper says that the characters recall a *Fontinalis* or a *Dichelyma* rather than any other pleurocarpous moss; it is a very small plant.

Fossilium Catalogus II. 13.

Fontinalis species.

1890 *Fontinalis* sp. Dawson, Sir Wm., and Penhallow, D. P. On the Pleistocene Flora of Canada. [Bull. Geol. Soc. Amer., I, p. 315.]

1898 *Fontinalis* sp. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.]

1900 *Fontinalis* sp. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley, [Rep. of 70th Meeting of Brit. Assoc., Bradford, 1900, Pt. I, p. 335.]

1911 *Fontinalis* sp. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831 bis]

1920 *Fontinalis* sp. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Ill. Bull., XVII, pp. 332, 335, 377.]

Dichelyma Myr.

D. capillaceum of *Distichium capillaceum* (1920).
Dichelyma sp. cf. *Fontinalis Tournalii*.

Climaciaceae.**Climacium** Web. et Mohr**Climacium dendroides** (Dill.) Web. et Mohr

1902 *Climacium dendroides*. Hartz, N. Bidrag til Danmarks senglacial Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.]

1904 *C. dendroides*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1910 *C. dendroides*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1912 *C. dendroides*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1914 *C. dendroides*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracoviae d. sc. math. et nat., Sér. B, No. 2 B, p. 250.]

1923 *C. dendroides*? Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 334.]

1924 *C. dendroides*. Beyle, M. Ueber einige Ablag.... der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog.-geol. Staatsinstitut, Heft VI, p. 26.]

Leucodontaceae.**Leucodon** Schwaegr.**Leucodon sciurooides** (L.) Schwaegr.

1905 *Leucodon sciurooides*. Neuweiler, E. Die prähistor. Pleistocene

Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

1914 *L. sciurooides*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1923 *L. sciurooides*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

Note. *A. f. falcata* is also recorded, with the type.

Antitrichia Brid.

Antitrichia curtipendula (Hedw.) Brid.

1898 *Antitrichia curtipendula*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 135.] Quaternary

1905 *A. curtipendula*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, pp. 37, 39.] (The latter reference as *Anomodon curtipendula*, lapsu calam.) Pleistocene

1909 *A. curtipendula*. Hartz, N. Bidrag til Danmarks tertiaere.... Flora. [Danmarks geol. Undersøgelse, II Raække, No. 20, p. 260.] Interglacial

1910 *A. curtipendula*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Post-glacial

1913 *A. curtipendula*. Beyle, M. Ueber einige Ablag... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6 Beih., p. 83.] Glacial

1923 *A. curtipendula*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 334.] Quaternary

Neckeraceae.

Neckera Hedw.

Neckera complanata (L.) Hüben.

1905 *Neckera complanata*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, pp. 38, 40.] Pleistocene

1909 *N. complanata*. Hartz, N. Bidrag til Danmarks tertiaere... Flora. [Danmarks geol. Undersøgelse, II Raække, No. 20, p. 261.] Interglacial

1910 *N. complanata*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.] Postglacial

1920 *N. complanata*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.] Preglacial Pliocene

1923 *N. complanata*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

1925 *N. complanata*? Weyland, H. Beitr. zur Kenntn. Upper
fossiler Moose. I. [Senckenbergiana, VII, Heft Pliocene
1/2, p. 53, t. III.]

Neckera crispa (L.) Hedw.

1901 *Neckera crispa*. Clerici, E. Contrib. alla Recent
geologia dei dintorni di Roma. [Rend. Lincei,
Roma, X, p. 79.]

1905 *N. crispa*. Neuweiler, E. Die prähistor. Pflanzen- Pleistocene
reste Mitteleuropas [Vierteljahr. naturforsch.
Ges. Zürich, L, Heft 6, p. 38.]

1909 *N. crispa*. Hartz, N. Bidrag til Danmarks tertiaere Interglacial
.... Flora. [Danmarks geol. Undersøgelse, II
Raekke, No. 20, p. 261.]

1923 *N. crispa*. Baumberger, E., etc. Die diluvialen Quaternary
Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz,
geotechn. Ser., Lief. 8, p. 334.]

1924 *N. crispa*. Maffei, Luigi. Contrib. allo stud. d. Quaternary
flora fossile de Pianico. [Atti Istit. Bot.
Univ. Pavia, Ser. III, 1/2, p. 53, t. III.]

Neckera pennata (L.) Hedw.

1914 *Neckera pennata*. Zmuda, A. J. Fossile Flora Diluvial
des Krakauer Diluviums. [Bull. int. Acad. Sci.
Cracovie d. sc. math. et nat., Sér. B, No. 2 B,
p. 249.]

Neckera pumila Hedw.

1897 *Neckera pumila*. Fischer, Ed. Nachtr. zum Pflan- Interglacial
zenverzeichn. von Pianico-Sellere. [Neues
Jahrb. f. Mineralogie, II, p. 106.]

1910 *N. pumila*. Dixon, H. N. Some "Neolithic" Moss Postglacial
remains from Fort William. [Ann. Scott. Nat.
Hist., 1910, p. 104.]

Neckera species.

1908 *Neckera* sp. Engelhardt, H., and Kinkelin, F. Upper
Oberpliocene Fl. und Fauna. des Frank- Pliocene
furter Klärbeckens. [Abh. Senckenb. naturforsch.
Ges., XXIX, p. 188, t. XXII, figs. 18—21.]

Homalia (Brid.) Bry. eur.

Homalia trichomanoides (Schreb.) Bry. eur.

1904 *Homalia trichomanoides*. Bell, A. M. Implementi- Late glacial
ferous Sections at Wolvercote (Oxfordshire).
[Quart. Journ. Geol. Soc., LX, p. 124.]

1914 *H. trichomanoides*. Zmuda, A. J. Fossile Flora des Diluvial
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-
covie d. sc. math. et nat., Sér. B, No. 2 B,
p. 249.]

1920 *H. trichomanoides*. Reid, E. M. Two preglacial Pliocene
Floras from Castle Eden. [Quart. Journ. Geol.
Soc., LXXVI, p. 111.]

Pinnatella (C. M.) Fleisch.**Pinnatella species.**

1915 *Pinnatella* sp. Reid, Clement and E. M. The Pliocene Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, pp. 51.] See also Bryologist, XIX, p. 51 (1916.) Note. Fragments only, showing traces of an intra-marginal border to the leaves, and in other respects agreeing with the § *Urociadium* of *Pinnatella*. Near to *P. alopecuroides* (Hook.) Fleisch, but probably specifically distinct.

Thamnium Bry. eur.**Thamnium alopecurum (L.) Bry. eur.**

1909 *Porotrichum alopecurum* (L.) Mitt. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1925 *Thamnium alopecurum*. Weyland, H. Beitr. zur Kenntn. fossiler Moose. I. [Senckenbergiana, VII, Heft 1/2, p. 11, fig. 1.]

Thamnium species.

1908 *Thamnium* sp. Engelhardt, H., and Kinkelin, F. Oberpliocäne Fl. und Fauna des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 189, t. 22, figs. 14, 15.] Note. I should say *T. alopecurum*, without doubt.

Lembophyllaceae.**Isothecium Brid.****Isothecium myosuroides (Dill.) Brid.**

1909 *Isothecium myosuroides*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *Eurhynchium myosuroides* (Dill.) Schimp. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1913 *Isothecium myosuroides*. Beyle, M. Ueber einige Ablagerung.... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6, Beih., p. 83.]

Isothecium viviparum (Neck.) Lindb.

1905 *Isothecium myurum* (Poll.) Brid. Neuweiler, E. Pleistocene Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, I, Heft 6, p. 38.]

1909 *I. myurum*. Hartz, N. Bidrag til Danmarks ter- Interglacial
tiaere Flora. [Danmarks geol. Undersøgelse,
II Raekke, No. 20, p. 261.]

1910 *Eurhynchium myurum* (Poll.) Dixon. Dixon, H. N. Postglacial
Some "Neolithic" Moss remains from Fort
William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1914 *Isothecium myurum*. Zmuda, A. J. Fossile Flora Diluvial
des Krakauer Diluviums. [Bull. int. Acad. Sci.
Cracovie d. sc. math. et nat., Sér. B, No. 2 B,
p. 249.]

Fabroniaceae.

Fabronia Raddi, cf. *Muscites serratus* Goepp. & Ber.

Entodontaceae.

Orthothecium Bry. eur.

Orthothecium chryseum (Schwaegr.) Bry. eur.

1910 *Stereodon chrysens* (Schwaegr.) Mitt.? Hesselbo, A. Diluvial
Mosrester fra Diluviet ved Skaerumhede. [Dan-
marks geol. Undersøgelse, II Raekke, No. 25,
p. 108.]

Orthothecium intricatum (Hartm.) Bry. eur.

1912 *Orthothecium intricatum*. Stark, P. Beitr. zur Glacial
Kenntn. der eiszeitlich. Fl. und Fauna Badens.
[Ber. naturforsch. Ges. Freiburg i. B., XIX,
p. 90.]

Orthothecium rufescens (Dicks.) Bry. eur.

1912 *Orthothecium rufescens*. Stark, P. Beitr. zur Glacial
Kenntn. der eiszeitlich. Fl. und Fauna Badens.
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Pylaisia Bry. eur.

Pylaisia polyantha (Schreb.) Bry. eur.

1913 *Pylaisia polyantha*. Beyle, M. Ueber einige Ab- Glacial
lag. fossiler Pflanz. der Hamburger Gegend. Erster
Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6,
Beih., p. 83.]

Leskeaceae.

Heterocladium Bry. eur.

Heterocladium squarrosulum (Voit) Lindb.

1914 *Heterocladium squarrosulum*. Zmuda, A. J. Fossile Diluvial
Flora des Krakauer Diluviums. [Bull. int. Acad.
Sci. Cracovie d. sc. math. et nat., Sér. B, No.
2 B, p. 249.]

Heterocladium species.

1908 *Heterocladium* sp. Engelhardt, N., and Kinkelin, F. Oberpliocäne Fl. und Fauna des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 189, t. 22, figs. 24—27.]

Note. Weyland [Senckenbergiana, VII, Heft 1/2, p. 13] states that no material of this was available. The figure of the leaf showing nerve reaching nearly to apex seems to preclude *Heterocladium*, though the cell structure is not inconsistent with this genus.

Anomodon Hook. et Tayl.**Anomodon longifolius** (Schleich.) Bruch.

1923 *Anomodon longifolius*. Baumberger, E., etc. Die Quaternary diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

Anomodon viticulosus (L.) Hook. et Tayl.

1905 *Anomodon viticulosus*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 37.]

1907 *A. viticulosus*. Dixon, H. N., in Lewis, F. J. Peat Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]

1909 *A. viticulosus*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1914 *A. viticulosus*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1923 *A. viticulosus*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

1925 *A. viticulosus*. Weyland, H. Beitr. zur Kenntn. fossiler Moose. I. [Senckenbergiana, VII, Heft 1/2, p. 12, Fig. 4.]

= *Anomodon* sp. Engelhardt, H. & Kinkelin, F. Oberpliocäne Fl. und Fauna.... des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 189, t. 22, Figs. 16, 17.]

Note. As Weyland remarks, there is nothing to preclude this being *A. viticulosus*.

Lescuraea Bry. eur.**Lescuraea striata** (Schwaegr.) Bry. eur.

1912 *Lescuraea striata*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Leskea Hedw.**Leskea polycarpa** Ehrh.

1898 *Leskea polycarpa*. Andersson, Gunnar. Stud. öfver Quaternary

Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.]

Leskea species.

1908 *Leskea* sp. Engelhardt, H. & Kinkelin, F. Oberpliocäne Fl. und Fauna des Frankfurter Klärbeckens. [Abh. Senckenb. naturforsch. Ges., XXIX, p. 188, t. 22, figs. 28, 29.]

Note. The determination as a *Leskea* cannot be justified; the upper half of the leaf shows no nerve. Weyland, H. (Beitr. zur Kenntn. fossiler Moose, in Senckenbergiana, VII, Heft 1/2) refers to this, and figures it (Fig. 6), remarking that in the condition of the fragment it must be left indeterminate.

Pseudoleskea Bry. eur.

Pseudoleskea filamentosa (Dicks.) Broth.

1912 *Pseudoleskea atrovirens*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Pseudoleskea atrovirens (Dicks.) (P. patens Limpr.)

1915 *Pseudoleskea atrovirens*. Reid, Clement & E. M. Pliocene The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 52].

Note. A slight doubt attaches to the determination, owing to the remains being associated with such species as *Euryhynchium speciosum* Schimp., *Philonotis fontana* etc.; the objection being somewhat neutralized by the presence also of *Homalothecium sericeum* and *Ditrichum tortile*. Structurally the leaves quite agreed.

Thuidium Bry. eur.

Thuidium abietinum (Dill.) Bry. eur.

1903 *Thuidium abietinum*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 269.]

1911 *T. abietinum*. Stoller, J. Die Flora der jungglazialen Ablag. Ostpreussens. [Jahrb. d. Kgl. preuss. geol. Landesanst., XXXI, T. II, H. 1, p. 123.]

1914 *T. abietinum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracoviae d. sc. math. et nat., Sé. B, No. 2 B, p. 249.]

1918—20 *T. abietinum*. Docturowsky, V. S., & Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

Thuidium antiquum Schimp.

1865 *Thuidium antiquum* Schimp. in Heer, Osw. Die Urwelt der Schweiz, 1 Aufl., p. 497. Note. Schimper (Traité de Pal. Végét., 1. lignites of Switzerland

p. 253) refers to this — without naming it — as apparently identical with *T. delicatulum*. Later, in Heer's work, he gives it the above name, and refers to it as being very close to *T. delicatulum*.

Thuidium delicatulum (Dill.) Mitt.

1869 *Thuidium delicatulum*. Schimper, W. P. Traité de Pal. végétale, I, p. 253 (cf. *T. antiquum*). Quaternary lignites of Switzerland Postglacial

1910 *T. delicatulum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

1910 *T. delicatulum* (or *T. recognitum* Lindb.). Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1911 *T. delicatulum*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 135.]

1914 *T. delicatulum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1918—20 *T. delicatulum*. Docturovsky, V. S., & Kudriashov, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

1923 *T. delicatulum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

Thuidium elatinum (Sap.) Schimp., Traité de pal. végétale, I, p. 250 (1869); t. VI, fig. 22—26.

1865 *Muscites elatinus* Saporta G. Etudes sur la vég. du Sud-Est de la France. [Ann. des Sc. nat. Par., 5^e sér., IV, p. 33; t. I, f. 2.] Tertiary

Note. Schimper places this "entre *T. abietinum* et *T. delicatulum*". The figures however show a clearly bipinnate branching, which precludes *T. abietinum*. The stem-leaves if correctly drawn are erect and short-pointed, which would suggest *T. delicatulum* or *T. recognitum*. There is apparently no reason to suppose it is distinct from one of our modern species.

Thuidium oeningense (Braun) Schimp. op. et loc. cit.

1851 *Muscites oeningensis* Braun Al. Verzeichn. d. foss. Pflanz. von Oeningen. [Stizenberger, Uebersicht d. Verstein. Badens, p. 72]. *Hypnum oeningense* Schimp. MS. in Heer, O., Flora tert. Helvetiae, I, p. 29; t. III, f. 8; II, t. XCIV, f. 20, e; III, t. CXLII, f. 26, 27.

Note. Schimper states that this resembles *T. minutulum*.

A specimen of the plant figured by Heer (I, t. III, f. 8) is in the Geological Department of the British Museum (No. 40884). The stem is distinctly pinnate, and it may well be a *Thuidium*, but it need by no means be compared with *T. minutulum*.

Thuidium Philiberti Limpr.

1905 *Thuidium Philiberti*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas..... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

1910 *T. Philiberti*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 104.]

1923 *T. Philiberti*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

var. *pseudo-tamarisci* (Limpr.) Ryan & Hagen

1905 *Thuidium pseudo-tamarisci*. Neuweiler, E., op. cit., pp. 38, 40.

Thuidium recognitum Lindb. cf. *T. delicatulum*, 1910.**Thuidium tamariscinum** (Hedw.) Bry. eur.

1905 *Thuidium tamariscinum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

1908 *T. tamariscinum*. Pax, F. Grundzüge der Pflanzenverbreitung in den Karpathen, II, p. 44.

1909 *T. tamariscinum*. Hartz, N. Bidrag til Danmarks tertiaere.... Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *T. tamariscinum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist. Soc., 1910, p. 104.]

1913 *T. tamariscinum*. Beyle, M. Ueber einige Ablagerung.... der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6 Beih., p. 83.]

1920 *T. tamariscinum*. Reid, E. M. Two pre-glacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.]

1923 *T. tamariscinum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

Thuidium species.

1912 *Thuidium* sp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1912 *Thuidium* sp. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Helodium (Sull.) Warnst.**Helodium lanatum** (Stroem) Broth.

1907 *Thuidium Blandovii* (Web. & Mohr) Bry. eur. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]

1909 *Thuidium Blandovii*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *Thuidium lanatum* (Stroem) Hagen. Hesselbo, A. Diluvial
Mosrester fra Diluviet ved Skaerumhede. [Dan-
marks geol. Undersøgelse, II Raekke, No. 25,
p. 108.]

1914 *Helodium Blandovii* (Web. & Mohr). Zmuda, A. J. Diluvial
Fossile Flora des Krakauer Diluviums. [Bull. int.
Acad. Sci. Cracovie d. sc. math. et nat., Sér. B,
No. 2 B, p. 249.]

1918—20 *Helodium lanatum*. Docturowsky, V. S., and Postglacial
Kudriashchev, V. Results of Russian studies on
peat moors. [Reports on Peat, 4.]

Hypnaceae.

Amblystegium Bry. eur.

Amblystegium Kochii Bry. eur.

1904 *Amblystegium Kochii*. Bell, A. M. Implementi-
ferous Sections at Wolvercote (Oxfordshire). Late glacial
[Quart. Journ. Geol. Soc., LX, p. 124.]

1920 A. Kochii. Reid, E. M. Two pre-glacial Floras Pliocene
from Castle Eden. [Quart. Journ. Geol. Soc.,
LXXVI, p. 111.]

1924 A. Kochii. Beyle, M. Ueber einige Ablagerung... Pleistocene
der Hamburger Gegend. Dritter Teil. [Mitteil.
aus dem Mineralog.-geol. Staatsinstitut, Heft VI,
p. 26.]

Amblystegium riparium Bry. eur.

1912 *Amblystegium riparium*. Stark, P. Beitr. zur Glacial
Kenntn. der eiszeitlich. Fl. und Fauna Badenst.
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1914 *Leptodictyum riparium* (L.) Warnst. Zmuda, A. J. Diluvial
Fossile Flora des Krakauer Diluviums. [Bull. int.
Acad. Sci. Cracovie d. sc. math. et nat., Sér. B,
No. 2 B, p. 249.]

1923 A. riparium. Douin, R. Les mousses des
tufs de Lautaret. [Rev. Génér. de Bot., XXXV,
p. 119.]

Amblystegium serpens Bry. eur.

1904 *Amblystegium serpens*. Bell, A. M. Implementi-
ferous Sections at Wolvercote (Oxfordshire). Late glacial
[Quart. Journ. Geol. Soc., LX, p. 124.]

1912 A. serpens. Dixon, H. N., in Warren, S. H.
A late Glacial stage in the Lea Valley. [Quart.
Journ. Geol. Soc., LXVIII, p. 231.]

1914 A. serpens. Weber, C. A. Die Mammutflora von Glacial
Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1,
p. 19.]

1920 A. serpens. Reid, E. M. Two pre-glacial Floras Pliocene
from Castle Eden. [Quart. Journ. Geol. Soc.,
LXXVI, p. 111.]

Amblystegium varium (Hedw.) Lindb.

1903 *Amblystegium varium*. Range, Paul. Das Diluv. Diluvial von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 253.]

1904 *A. varium*. Reid, Clement. East Norfolk Geology. [Trans. Nort. & Norw. Nats. Soc., VII, p. 293.]

1909 *A. radicale* Bry. eur. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

Amblystegium species.

1908 *Amblystegium* sp. Holst, N. O. Efterskörd från de senglaciala Lägren vid Toppeladugård. [Sver. geol. Undersökn. Årsbok, II, No. 2, p. 16.]

1908 *Amblystegium* sp. Weber, C. A. Die Moostorf-schichten zwischen Sarkau und Oranz. [Engler's Bot. Jahrb., XLII, pp. 42, 43.]

1910 *Amblystegium* sp. Sukačev, V. N. Sur la flore arctique fossile près du village Demianskóe, gouv. Tobolsk. [Bull. Acad. Impér. Sci. St. Pétersbourg, 1910, p. 460, fig. g.]

1912 *Amblystegium* sp. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, 116.]

1918—20 *Amblystegium* sp. Docturowsky, V. S., and Kudriashov, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

1923 *Amblystegium* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.]

Amblystegiella Loeske**Amblystegiella confervoides** (Brid.) Loeske

1909 *Amblystegium* cfr. *confervoides*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

Homomallium (Schimp.) Loeske**Homomallium incurvatum** (Schrad.) Loeske

1905 *Hypnum incurvatum* Schrad. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

Hygroamblystegium Loeske**Hygroamblystegium curvicaule** (Jur.) Loeske

1914 *Amblystegium curvicaule* Jur. Weber, O. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 19.]

Hygroamblystegium fallax (Brid.) Loeske

1903 *Amblystegium fallax* var. *spinifolium* (Schimp.) Range, Paul. Das Diluv. von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 253.]

Hygroamblystegium filicinum (L.) Broth.

1901 *Amblystegium filicinum* (L.) De Not. Geheebe, A. Ueber ein fossiles Laubmoos aus der Umgebung von Fulda. [Beihefte zum Bot. Centralblatt, Bd. X, Heft 3, p. 125.]

1904 *A. filicinum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1908 *A. filicinum*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård. [Sver. geol. Undersök. Årsbok, II, No. 2, p. 19].

1910 *A. filicinum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1912 *A. filicinum*, and var. *vallislausae* (Wils.). Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *A. filicinum*. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 19.]

1914 *Cratoneuron filicinum* (L.) Roth. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 429.]

1915 *A. filicinum*. Reid, Clement, and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.]

1922 *A. filicinum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.]

1922 *Hypnum filicinum* L. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faærørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

1923 *A. filicinum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335, 521.]

Cratoneuron (Sulliv.) Roth**Cratoneuron commutatum (Hedw.) Roth**

1890 *Hypnum commutatum* Hedw. Dawson, Sir Wm., and Penhallow, D. P. On the Pleistocene Flora of Canada. [Bull. Geol. Soc. Amer., I, p. 315.]

1900 *H. commutatum*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting of Brit. Assoc., Bradford. Pt. II, p. 335.]

1904 *Cratoneuron commutatum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1908 *H. commutatum*. Augé, L. Note sur tufs quaternaires de Piécourt. [Bull. Soc. Etudes Sci. nat. Nîmes, XXXV, p. 67.]

1909 *H. commutatum*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, I, p. 58.]

1920 *C. commutatum*. Baker, Frank C. The Life of Pleistocene the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 332, 335, 377.]

1923 *C. commutatum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 195, 335, 521.]

1923 *C. cfr. commutatum*. Baumberger, op. cit., p. 145, 335.]

1923 *C. commutatum*. Klähn, Hans. Die Petrogenese Kalktuffe der Kalktuffe [Geol. Arch., 2, p. 305.]

1923 *H. commutatum*. Douin, R. Les mousses des tufs de Lautaret. [Rev. Génér. de Bot., XXXV, p. 120.]

Cratoneuron decipiens (De Not.) Broth.

1904 *Thuidium decipiens* De Not. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). Late glacial [Quart. Journ. Geol. Soc., LX, p. 124.]

1910 *Th. decipiens*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

Cratoneuron falcatum (Brid.) Roth

1904 *Hypnum falcatum* Brid. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). Late glacial [Quart. Journ. Geol. Soc., LX, p. 124.]

1910 *H. falcatum*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1922 *H. falcatum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.]

1923 *Cratoneuron falcatum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.]

1923 *H. falcatum*. Douin, R. Les mousses des tufs de Lautaret. [Rev. Génér. de Bot., XXXV, p. 120.]

Cratoneuron irrigatum (Zett.) Roth

1912 *Hypnum irrigatum* Zett. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. Naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

1923 *H. irrigatum*. Douin, R. Les mousses des tufs de Lautaret. [Rev. Génér. de Bot., XXXV, p. 120.]

Cratoneuron species.

1892 *Hypnum filicinum* or *commutatum*. Boulay, N. Pliocene Flore pliocène du Mont-Dore, p. 45.

Drepanocladus Roth (Hypnum § Harpidium auct.)

Drepanocladus aduncus (Hedw.) Moenk.

1869 *Hypnum aduncum* Hedw. Schimper, W. P. Traité de Pal. Végétale, I, p. 254. Glacial deposits, Württemberg

1903 *H. aduncum* var. *sparsifolium* (Warnst.). Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone.... [Zeitschr. für Naturwiss., LXXVI, p. 253.] Diluvial

1904 *Drepanocladus aduncus*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire.) [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1904 *D. aduncus*? Weber, C. A. in Müller, G. Ueber eine fröhlidiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad. Heft 40, p. 16.] Early glacial

1908 *H. aduncum*. Weber, C. A. Die Moostorfschicht. zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 43.]

1908 *H. aduncum*. Pax, F. Grundzüge der Pflanzenverbreitung in den Karpathen, II, p. 44. Post-tertiary

1909 *H. aduncum*. Travis, W. G. Plant remains in peat at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat

1909 *H. aduncum*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, pp. 1, 58.] Schiefer-kohlen

1910 *Amblystegium aduncum* (Hedw.) Sanio. Hesselbo, A. Mørrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *H. aduncum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *Drepanocladus subaduncus* Warnst. Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2, p. 1107.] Diluvial

Note. The determination is said to be slightly doubtful.

1919 *D. aduncus*. Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc., LIII, p. 295.] Postglacial

1920 *D. aduncus*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 245, 280, 377.] Pleistocene

1922 *H. aduncum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

***Drepanocladus aduncus* (Hedw.) Gr. Kneiffii**

1852 *Hypnum Noegerrathii* Weber C. O. Die Tertiärflora der niederrhein. Braunkohlenformation. [Palaeontographica, II, p. 227, t. XXV.] Tertiary

Note. Schimper (Traité de Pal. Végét., I, 250) refers this to *Hyp. aduncum* var. *Kneiffii*.

1896 *Hypnum aduncum* var. *groenlandicum* Heer. Engel, Th. Geognost. Wegweiser durch Württemberg. 2^e Aufl., p. 436.]

1905 *H. aduncum* var. *Kneiffii* *groenlandicum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas ... [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 39.] Pleistocene

1909 *Amblystegium aduncum* (Hedw.) Sanio ? var. *Kneiffii*. Hartz, N. Bidrag til Danmarks ter- Interglacial

tiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1909 *Hypnum* cfr. *Kneiffii*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, pp. 1, 58.] Schiefer-
kohlen

1910 *Amblystegium* *Kneiffii* *Bry. eur.* Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Dan-
marks geol. Undersøgelse, II Raekke, No. 25,
p. 108.] Diluvial

1919 *Drepanocladus aduncus* var. *Kneiffii*. Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull.
biol. de la France, etc., LIII, p. 295.] Postglacial

Drepanocladus aduncus* (Hedw.) Gr. *pseudofluitans

1904 *D. aduncus* var. *pseudofluitans* (Sanio). Bell, A. M. Late glacial
Implementiferous Sections at Wolvercote (Ox-
fordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1909 *Hypnum aduncum* var. *paternum* Sanio. Travis, W. G. Plant remains in peat at Aintree.
[Trans. Liverpool Bot. Soc., I, p. 5.] Peat

1909 *Drepanocladus pseudofluitans* (Sanio). Stoller, J. Early
Die Pflanzenreste in den Stuttgarter An-
lagen. [Mitteil. der geol. Abt. des k. württ.
stat. Landes-Amtes, No. 6. Beilage zu Jahresh. des
Ver. für vaterl. Naturkunde in Württemberg,
Jahrg. LXV, p. 73, fig. 1.] diluvial

1912 *H. aduncum* var. *pseudofluitans* Sanio. Dixon, H. Late glacial
N., in Warren, S. H. A late Glacial stage in the
Lea Valley. [Quart. Journ. Geol. Soc., LXVIII,
p. 231.]

1919 *D. pseudofluitans* (Sanio). Gadeceau, E. Les Postglacial
Forêts submergées de Belle-Ile-en-mer. [Bull. biol.
de la France, etc., LIII, p. 295.]

***Drepanocladus badius* (Hartm.) Roth**

1914 *Drepanocladus badius*. Zmuda, A. J. Fossile Flora Diluvial
des Krakauer Diluviums. [Bull. int. Acad. Sci.
Cracovie d. sc. math. et nat., Sér. B, No. 2 B,
p. 250.]

***Drepanocladus capillifolius* Warnst.**

1904 *Drepanocladus capillifolius*. Bell, A. M. Implemen-
tiferous Sections at Wolvercote (Oxfordshire).
[Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1904 *Hypnum capillifolium* Warnst. Reid, Clement. East
Norfolk Geology. [Trans. Nort. & Norw. Nats'.
Soc., VII, p. 293.] Preglacial

1910 *Amblystegium capillifolium* (Warnst.). Hesselbo, A. Diluvial
Mosrester fra Diluviet ved Skaerumhede. [Dan-
marks geol. Undersøgelse, II Raekke, No. 25,
p. 108.]

1911 *D. capillifolius*. Zmuda, A. J., in Szafer, W. Early
Ueber eine alt-diluviale Flora in Krystynopol in
Wolhynien. [Kosmos, XXXVI, p. 337.] diluvial

1912 *D. capillifolius*. Szafer, W. Eine Dryasflora bei
Krystynopol in Galizien. [Bull. int. Acad. Sci.

Cracovie d. sc. math. et nat., Sér. B. No. 2, p. 1107.]

1912 *H. capillifolium*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1914 *D. capillifolius*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. Sc. math. et nat., Sér. B, No. 2B, p. 250.] Diluvial

1915 *H. capillifolium*. Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.] Pliocene

***Drepanocladus exannulatus* (Guemb.) Warnst.**

1896 *Amblystegium exannulatum* (Guemb.) De Not. Andersson, Gunnar. Ueber das Fossile Vorkommen in Russland und Dänemark. [Bih. Svensk Vet.-Akad. Handl., XXII, Afd. III, No. 1, p. 6.] Pleistocene clay

1902 *A. exannulatum*. Hartz, N. Bidrag til Danmarks senglaciiale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1903 *Hypnum fluitans* var. *brachydictyon* Ren. Holzinger, J. M. Some Fossil Mosses. [Bryologist, VI, p. 93.] Pleistocene

1904 *Drepanocladus exannulatus*. Weber, C. A., in Mueller, G. Ueber eine fröhdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Early glacial

1904 *H. exannulatum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, 124.] Late glacial

1905 *H. fluitans-exannulatum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas (Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 39.) Pleistocene

1907 *H. exannulatum* var. *brachydictyon* Ren. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.] Peat

1908 *H. exannulatum*. Weber, C. A. Die Moostorfschichten zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 33, 40, 43.] Peat

1909 *Amblystegium exannulatum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial

1910 *A. exannulatum*. Hesselbo, A. Mosrester fra Diluviet ved Skærumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *H. exannulatum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *H. exannulatum* var. *orthophyllum* Milde. Dixon, H. N., in Warren, S. H., op. et loc. cit. Late glacial

1912 *H. purpurascens* Limpr. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

1912 *H. fluitans* Gr. *exannulatum* var. *pinnatum* Boul. f. Hawkesworth, E. A pre-glacial Lake-bed near Northallerton. [Naturalist, 1912, p. 204.] Preglacial

1914 *H. exannulatum*. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 23.] Glacial

1914 *Warnstorffia exannulata* (Guemb.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1918 *D. exannulatus*. Heim, Arnold, & Gams, H. Inter-glaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXVIII, p. 27.] Interglacial

1918—20 *D. exannulatus*. Docturowsky, V. S., & Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial

1919 *D. exannulatus*. Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc., LIII, p. 295.] Postglacial

1922 *H. exannulatum*. Jessen, Knud, og Rasmussen, R. Et Provin Gennem in Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

1923 *D. exannulatus*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.] Quaternary

Drepanocladus fluitans (L.) Gr. Rotae (De Not.)

1903 *H. fluitans* var. *glaciale* Ren. Holzinger, J. M. Some Fossil Mosses. [Bryologist, VI, p. 94.] Pleistocene; below Kansas Drift

1904 *Hypnum fluitans* var. *falcifolium* Ren. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1908 *Drepanocladus fluitans* Gr. Rotae. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands.... [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial

1909 *Amblystegium Rotae* De Not. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial

1910 *Amblystegium Rotae*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *H. exannulatum* Gr. Rotae. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1914 *H. purpurascens* Limpr. var. *Rotae* (De Not.). Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 23.] Glacial

Drepanocladus fluitans (L.) Warnst.

1869 *Hypnum fluitans* L. Schimper, W. P. Traité de Pal. Végét., I, p. 254. Glacial de-
posits in
Württemberg

1888 *Amblystegium fluitans* (L.) De Not. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from.... Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.] Glacial

1889 *A. fluitans*. Candler, Chas. Observations on some undescribed Lacustrine Deposits.... in Suffolk. [Quart. Journ. Geol. Soc., XLV, p. 507.] Pleistocene

1896 *H. fluitans* var. *tenuissimum* Schimp. Engel, Th. Geognostisch. Wegweiser durch Württemberg. 2^e Aufl., p. 436.

1898 *A. fluitans*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome II, No. 8, p. 135.] Quaternary

1900 *Hypnum fluitans*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting of Brit. Assoc., Bradford, 1900. Pt. II, p. 335.] Pleistocene

1901 *H. fluitans* f. *fossilis*. Geheeb, A. Ueber ein fossiles Laubmoos aus der Umgebung von Fulda. [Beih. zum Bot. Centralbl., X, Heft 3, p. 127.]

1902 *A. fluitans*. Hartz, N. Bidrag til Danmarks sen-glaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 18.] Late glacial

1904 *H. fluitans*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1904 *H. fluitans*. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VI, p. 293.] Preglacial

1905 *H. fluitans* var. *tenuissimum* Schimp. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, I, Heft 6, p. 39.] Pleistocene

1908 *Drepanocladus fluitans*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial

1908 *Amblystegium fluitans*. Holst, N. O. Efterskörd från de senglaciale Lagren vid Toppeladugård. [Sver. Geol. Undersökning Arsbok, II, No. 2, p. 19 bis.] Late glacial

1909 *A. fluitans*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial

1909 *H. fluitans*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] Schiefer-kohlen

1910 *H. fluitans*. Dixon, H. N. Some "Neolithic" Moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial

1910 *A. fluitans*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1911 *D. fluitans*. Stoller, J. Beitr. zur Kenntn. der diluvialen Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXXII, T. 1, H. 1, p. 135.] Diluvial

1911 *A. fluitans*. Stoller J., op. cit., p. 130. Diluvial

1912 *H. fluitans*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *H. fluitans* var. *falcatum* Schimp. Dixon, H. N., op. et loc. cit. Late glacial

1912 *H. fluitans*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1914 *H. fluitans*. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 23.] Glacial

1914 *D. fluitans* var. *pseudostramineus* (C. M.) (as *D. pseudostramineus* (C. M.) Roth). Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

1917 *Hypnum* cfr. *fluitans*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons.... [Bot. Jahrb. Syst., LIV, Beibl. No. 120, p. 14.]

1918 *D. fluitans*. Heim, Arnold, & Gams, H. Inter-glaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXVIII, p. 27.] Interglacial

1918—20 *D. fluitans*. Docturowsky, V. S., and Kudriashiev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Postglacial

1919 *D. fluitans*. Gadecau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc., LIII, p. 295.] Postglacial

1920 *D. fluitans*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 332, 335, 377.] Pleistocene

1923 *D. fluitans*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotech. Ser., Lief. 8, pp. 84, 336.] Quaternary

***Drepanocladus Hollosianus* (Schillb.)**

Györrfy MS., Broth. in Engl. & Prantl, Pflanzenfam., Musci, Ed. 2, II, p. 523.

Syn. *Hypnum* sp.? Hollós, L., in Kecszemét Multja és Jelene, 1896, p. 25, fig. 22.

Hypnum Hollósi Schilb. in Term. tud. Közlöny, XXX, p. 436; Budapest, 1898 (nomen solum).

1912 *Hypnum Hollosianum* Schilb. in Math. és term. tud. Ertesito, XXX, p. 636 (cf. pp. 646—649); probably figs. 1, 3, 4, 6, 8, 9.

Note. Full descriptions and figures are given in the 1912 paper. The author compares it with *Acrocladium cuspidatum* and *Hyp. Taramellianum* Farneti (proximum).

***Drepanocladus intermedius* (Lindb.) Warnst.**

1898 *Amblystegium intermedium* (Lindb.) Lindb. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome II, No. 8, p. 135.] Quaternary

1904 *Hypnum intermedium* Lindb. Bell, A. M. Imple-mentiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1904 *H. intermedium*. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 193.] Preglacial

1905 *H. intermedium*. Neuweiler, E. Zur Interglazial-flora der schweiz. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürch. bot. Ges., p. 98.] Interglacial

1909 *H. intermedium*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bay. bot. Ges., XII, 1, p. 58.] Schiefer-kohlen

1910 *A. intermedium*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1911 *H. intermedium*. Stoller, J. Die Flora der jungglazialen Ablag. Ostpreussens. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXXI, II, p. 130.] Early glacial

1912 *H. intermedium*. Whitehead, Goodchild, and Reid. Some notes on "moorlog"..... [Essex Naturalist, XVI, p. 56.] Submarine peat deposit.

1914 *H. intermedium*. Weber, C. A. Die Mammutfloa von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.] Glacial

1914 *Limprichtia intermedia* (Lindb.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1918 *Drepanocladus intermedius*. Heim, Arnold, & Gams, H. Interglaz. Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXVIII, p. 27 bis.] Interglacial

1920 *D. intermedius*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 332, 335, 377.] Pleistocene

1922 *H. intermedium*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

1923 *D. intermedius*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 335, 336, 521.] Diluvial

Drepanocladus latifolius (Lindb. et Arn.) Broth.

1910 *Amblystegium latifolium* (Lindb. & Arn.) Lindb. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

Drepanocladus lycopodioides (Schwaegr.) Warnst.

1904 *Hypnum lycopodioides* Schwaegr. ? Bell, A. M. Late glacial Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1914 *H. lycopodioides*. Weber, C. A. Die Mammutfloa von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial

1922 *H. lycopodioides*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

Drepanocladus revolvens (Sw.) Warnst.

1896 *Hypnum revolvens* Sw. Farneti, R. Ricerche di briol. palaeont al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 54.] Glacial

1890 *H. revolvens*. Dawson, Sir Wm., and Penhallow, D. P. On the Pleistocene Flora of Canada. [Bull. Geol. Soc. Amer., I, p. 315.] Pleistocene

1900 *H. revolvens*. Penhallow, D. P. Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting, Brit. Assoc., Bradford. Pt. II, p. 336.] Pleistocene

1903 *H. revolvens*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 254.] Diluvial

1903 *H. revolvens*. Holzinger, J. M. Some Fossil Mosses. [Bryologist, VI, p. 94.] Pleistocene, below Kansas drift.

1904 *H. revolvens*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1904 *H. revolvens*. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial

1909 *Amblystegium Cossoni* (Schreb.) Lindb. Nørregaard, E. M. Et senglaciale fra Dejbjerg Bakker. [Med. fra Dansk geol. Fören., No. 15, p. 326.] Late glacial

1910 A. Cossoni. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *H. revolvens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Flora und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

1912 *H. revolvens*. Stark, P., op. cit., p. 116. Glacial

1912 *H. revolvens*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1914 *H. revolvens*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial

1915 *H. revolvens* sensu latiore. Camus, F. Sur les mousses trouvées dans un mammouth. [Compt. Rend. Acad. Sci. Paris, CLX, p. 842.] Glacial

1917 *Hypnum cfr. revolvens*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. No. 120, p. 14.]

1918 *Drepanocladus revolvens*. Heim, Arnold, & Gams, H. Interglaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXIII, p. 27.] Interglacial

1920 *D. revolvens*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 178, 184, 228, 241, 377.] Pleistocene

1922 *H. revolvens*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

1923 *D. revolvens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335, 521.] Quaternary

***Drepanocladus scorpioides* (L.) Warnst.**

1896 *Hypnum scorpioides* L. Farneti R. Ricerche di Glacial briol. palaeont al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 55.]

1903 *H. scorpioides*. Range, Paul. Das Diluv. von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 269.] Diluvial

1904 *H. scorpioides*. Geinitz, C., und Weber, C. A. Ueber ein Moostorflager der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial

1908 *Scorpidium scorpioides* (L.) Limpr. Weber, C. A. Die Moostorfsschichten zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 41, 44.] Pleistocene

1908 *Drepanocladus scorpioides*. Weber, C. A. *Hypnum turgescens* Schimp. [Engl. Bot. Jahrb., XLII, p. 239.] Pleistocene

Note. This is a correction of *D. turgescens* to the present species, from p. 38 of the same volume.

1908 *Amblystegium scorpioides* (L.) Lindb. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård [Sver. geol. Undersökn. Arsbok, II, No. 2, p. 19 bis.] Late glacial

1909 *A. scorpioides*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial

1909 *H. scorpioides*. Travis, W. G. Plant remains in peat at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat

1909 *Sc. scorpioides*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bay. bot. Ges., XII, 1, p. 58 bis.] Schiefer-kohlen

1910 *A. scorpioides*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1911 *H. scorpioides*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] Arctic bed in peat, West Shetland

1912 *H. scorpioides*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *Sc. scorpioides*. Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2, p. 1109.] Glacial

1914 *Sc. scorpioides*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

1914 *H. scorpioides*. Weber, C. A. Die Mammutflora von Born. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 24.] Glacial

1917 *H. scorpioides*. Weber, C. A. Die Pflanzenwelt des Ralutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Interglacial

1917 *Sc. scorpioides*. Rudolph, K. Untersuch. über den Aufbau böhmischer Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 83.] Recent

1918 *Sc. scorpioides*. Heim, Arnold, & Gams, H. Interglaziale Bildungen bei Wildhaus. [Viertel-jahr. naturforsch. Ges. Zürich, LXIII, p. 27 bis.] Interglacial

1922 *H. scorpioides*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

1922 *Sc. scorpioides*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Færørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.] Recent

1923 *Sc. scorpioides*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 337.] Quaternary

Drepanocladus Sendtneri (Schimp.) Warnst.

1869 *Hypnum Sendtneri* Schimp. *Traité de Pal. végét.*, Tertiary I, p. 250.
Syn. *H. Weberianum* Goepp. ex Weber, C. Otto.
Die Tertiärfloren der niederrhein. Braunkohlen-formation, in *Palaeontographica*, II, p. 227, t. XXV, f. 7, 10—13. (nec *H. Weberianum* Schimp.).

1896 *H. Sendtneri*. Farneti, R. Ricerche di briol. paleont. al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 55.]

1904 *H. Sendtneri* (with some slight doubt). Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1904 *H. Sendtneri* (or ? *H. Wilsoni*). Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.]

1905 *H. Sendtneri*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zurich, L, Heft 6, p. 39.]

1905 *H. Sendtneri* ? Neuweiler, E. Zur Interglazialflora der schweiz. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 98.]

1909 *H. Sendtneri*. Travis, W. G. Plant remains in peat at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.]

1910 *Amblystegium Sendtneri* (Schimp.) De Not. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1912 *H. Sendtneri*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *Drepanocladus Sendtneri*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.]

1922 *H. Sendtneri*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.]

1923 *D. Sendtneri*. Baumberger, E., etc. Die diluv. Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 336].

1925 *D. Sendtneri*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.]

Drepanocladus trifarius (Web. & Mohr) Broth.

1905 *Hypnum trifarium* (Web. & Mohr). Neuweiler, E. Zur Interglazialflora der schweiz. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 97.]

1908 *H. trifarium*. Weber, C. A. Die Moostorfschichten zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 41, 43.]

1909 *Calliergon trifarium* (Web. & Mohr) Kindb. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bay. bot. Ges., XII, 1, p. 58.]

1912 *H. trifarium*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, pp. 90, 116.] Glacial

1914 *Pseudocalliergon trifarium* (Web. & Mohr) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B. No. 2 B, p. 250.] Diluvial

1917 *H. trifarium*. Rudolph, K. Untersuch. über den Aufbau böhmischer Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 83.] Recent

1918 *Calliergon trifarium*. Heim, Arnold, & Gams, H. Interglaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXIII, p. 27.] Interglacial

1923 *Calliergon trifarium*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 336, 521.] Quaternary

Drepanocladus Tundrae (Arn.).

1911 ? *Calliergon Tundrae* (Arn.). Zmuda, A. J. in Early Szafer, W. Ueber eine alt-diluviale Flora in diluvial Krystynopol in Wolhynien. [Kosmos, XXXVI, p. 338.]

Drepanocladus turgescens (Jens.) Broth.

1904 *Hypnum turgescens* Jens. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial

1908 *H. turgescens*. Weber, C. A. Die Moostorfschichten zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, p. 38 sqq.] Pleistocene
Note. This was corrected later, in the same volume, to D. Sendtneri.

1909 *Amblystegium turgescens* (Jens.) Lindb. Nørregaard, E. M. Et senglacialt fra Dejbjerg Bakker. [Meddel. fra Dansk geol. Fören., No. 15, p. 325.] Late glacial

1910 *A. turgescens*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Række, No. 25.] Diluvial

1912 *H. turgescens*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *Drepanocladus turgescens*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.] Glacial

1914 *Pseudocalliergon turgescens* (Jens.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.] Diluvial

1917 *H. turgescens*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. No. 120, p. 14.] Interglacial

1923 *Calliergon turgescens* (Jens.) Kindb. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 337, 521.] Quaternary

Drepanocladus vernicosus (Lindb.) Warnst.

1904 *Hypnum vernicosum* Lindb. Geinitz, E., und Weber, C. A. Ueber ein Moostorflager der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial

1908 *H. vernicosum* ? Weber, C. A. Die Moostorfschichten zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 41, 43.] Pleistocene

1911 *Drepanocladus vernicosus*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXXII, T. 1, H. 1, p. 135.] Diluvial

1912 *D. vernicosus*. Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2, p. 1106.] Glacial

1914 *Limpriechtia vernicosa* (Lindb.) Loeske. Zmuda, A. J., Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1914 *H. vernicosum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.] Glacial

1917 *D. vernicosus*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Interglacial

1922 *H. vernicosum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

1925 *D. vernicosus*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Interglacial

Drepanocladus Wilsoni (Schimp.) Roth.

1904 *Hypnum Wilsoni* Schimp. ? Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial
Note. Possibly *D. Sendtneri* (Schimp.).

1908 *Drepanocladus Wilsoni*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXIX, p. 119.] Diluvial

1909 *H. Wilsoni*. Travis, W. G. Plant remains in peat at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat

1910 *D. Wilsoni*. Hesselbo, A. Mosrester fra ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *H. Wilsoni*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Lateglacial

1914 *H. Wilsoni*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 22.] Glacial

1918—20 *D. Sendtneri* var. *Wilsoni* (Schimp.). Dicotrowsky, V. S., and Kudriaschev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.] Interglacial

Dreplanocadus, undetermined species.

1923 *Drepanocladus* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 336.] Quaternary

1925 *Drepanocladus* sp. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.] Novaya Zemlya peat

Calliergon (Sull.) Kindb.**Calliergon cordifolium** (Hedw.) Kindb.

1902 *Amblystegium cordifolium* (Hedw.) De Not. Hartz, N., Bidrag til Danmarks senglaciale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1904 *Calliergon cordifolium*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1909 *A. cordifolium*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1910 *A. cordifolium*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

Calliergon diluvianum (Schimp.) Dix., comb. nov.

1869 *Hypnum diluvianum* Schimp. Traité de Pal. Vé gét., I, p. 253. Quaternary lignites of Switzerland

Note. Schimper compares this with *C. giganteum*. Gams considers it may be *C. sarmentosum* (cfr. Baumberger, E., etc., in Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 520).

1923 *H. diluvianum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.] Quaternary

Calliergon giganteum (Schimp.) Kindb.

1898 *Amblystegium giganteum* (Schimp.) De Not. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 135.] Quaternary

1902 *A. giganteum*. Hartz, N. Bidrag til Danmarks senglaciale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1903 *Hypnum giganteum* Schimp. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 256.] Diluvial

1904 *Calliergon giganteum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1904 *H. giganteum*. Weber, C. A., in Müller, G. Ueber eine fröhdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial

1904 *H. giganteum*. Geinitz, E., und Weber, C. A. Postglacial Ueber ein Moostorfliager der Rostocker Heide.

[Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.]

1905 *H. giganteum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 39 bis.] Pleistocene

1905 *H. giganteum*, var. Neuweiler, E. Zur Inter-glazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 96.] Interglacial

1908 *A. giganteum*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård [Sver. geol. Undersökning Årsbok, II, No. 2, p. 19.] Late glacial

1908 *H. giganteum*. Weber, C. A. Die Moostorfschichten zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, pp. 40, 41, 44.] Pleistocene

1909 *A. giganteum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Diluvial

1909 *C. giganteum*. Schuster, J. Palaeobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] Schiefer-kohlen

1910 *A. giganteum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1911 *H. giganteum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.] Recent Ice-land peat

1912 *H. giganteum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *C. giganteum*. Szafer, W. Eine Dryasflora bei Krystynopol in Galizien. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2, p. 1108.] Glacial

Note. Zmuda gives as a synonym "*C. Richardsoni* Zmuda (nicht Kindb.) in Kosmos, XXXVI, p. 337."

1912 *H. giganteum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1914 *C. giganteum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.] Diluvial

1914 *H. giganteum*. Weber, C. A. Die Mammuthflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 24.] Glacial

1917 *C. giganteum*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.] Interglacial

1917 *H. giganteum*. Rudolph, K. Untersuch. über den Aufbau böhmischer Moore. [Abh. k. k. zool.-bot. Ges., Wien, IX, p. 84.] Recent

1918 *C. giganteum*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 40.] Glacial

1918 *C. giganteum*. Heim, Arnold, & Gams, H. Inter-glaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXIII, p. 27 bis.] Interglacial

1922 *H. giganteum*. Travis, W. G. On peaty bands in Peat the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.]

1923 *C. giganteum*. Baumberger, E., etc., Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 84, 145, 336, 521.]

1924 *H. giganteum*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog.-geol. Staats-institut, Heft VI, p. 26.]

Calliergon Richardsoni (Mitt.) Kindb.

1903 *Hypnum Richardsoni* (Mitt.) Lesq. & James. Holzinger, J. M. On some fossil mosses. [Bryologist, VI, p. 94.]

1904 *H. Richardsoni* ? Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.]

1911 Calliergon Richardsoni. Zmuda, A. J., in Szafer, W. Ueber eine alt-diluv. Flora in Krystynopol in Wolhynien. [Kosmos, XXXVI, p. 337.]
Note. cfr. note on *C. giganteum* (1912, Szafer) above.

1912 *H. Richardsoni*. Whitehead, Goodchild, and Reid. Some notes on "moor-log" [Essex Naturalist, XVI, p. 56.]

1914 *H. Richardsoni*. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 24.]

1914 *C. Richardsoni*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1917 *H. Richardsoni*. Weber, C. A. Die Pflanzenwelt des Rabutzer Beckentons [Bot. Jahrb. Syst., LIV, Beibl. Nr. 120, p. 14.]

1920 *C. Richardsoni*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 228, 241, 377.]

1925 *C. Richardsoni*. Dixon, H. N. Moss Remains in Russian Peat. [Journ. of Bot., LXIII, p. 370.]

Calliergon sarmentosum (Wahl.) Kindb.

1869 *Hypnum sarmentosum* Wahl. Schimper, W. P. Traité de Pal. Végét., I, p. 253, bis.

1888 *Acroceratium sarmentosum* (Wahl.) Mitt. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from Hoxne, in Suffolk. [Geol. Mag., Decade III, vol. V, p. 444.]

1896 *H. sarmentosum*. Farneti, R. Ricerche di briol. palaeont.... al periodo glaciale. [Atti del Istit. Bot. della Reale Univ. d. Pavia, Ser. 2, V, p. 57.]

1896 *H. sarmentosum*. Engel, Th. Geognost. Wegweiser durch Württemberg. 2^o Aufl., p. 436.

1912 *H. sarmentosum*? Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1912 *Hypnum cfr. sarmentosum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1914 *Calliergon sarmentosum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1918 *C. sarmentosum*. Heim, Arnold, & Gams, H. Inter-glaziale Bildungen bei Wildhaus. [Vierteljahr. naturforsch. Ges. Zürich, LXIII, p. 28.]

1923 *C. sarmentosum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.]

Calliergon stramineum (Dicks.) Kindb.

1897 *Calliergon stramineum*. Beck, R. und Weber, C. A. Ueber ein Torflager des sächsischen Erzgebirges. [Zeitschr. d. D. geol. Ges., XLIX, p. 667.]

1898 *Amblystegium stramineum* (Dicks.) De Not. Andersson, Gunnar. Stud. öfver Finlands Kvar-tärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 135.]

1904 *C. stramineum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1907 *Hypnum stramineum* Dicks. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]

1908 *A. stramineum*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård [Sver. geol. Undersökning Arsbok, II, No. 2, p. 19.]

1910 *A. stramineum*. Hesselbo, A. Mosrester fra Diluviet ved. Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1912 *H. stramineum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1912 *H. stramineum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1914 *C. stramineum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1918—20 *C. stramineum*. Docturowsky, V. S. and Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

1922 *C. stramineum*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

Calliergon undetermined species.

1869 *Hypnum stramineum* Dicks. or near it. Schimper, Traité de Pal. Végét., I, p. 253.] Quaternary lignites of Switzerland

1905 *Hypnum*, § *Calliergon* sp. Neuweiler, E. Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch bot. Ges., p. 97.] Interglacial

1923 *Calliergon* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 337.] Quaternary

Acrocladium Mitt.**Acrocladium cuspidatum** (L.) Lindb.

1888 *Acroceratium cuspidatum* (L.) Mitt. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from.... Hoxne, in Suffolk. [Geol. Mag., Decade III, vol. V, p. 444.] Glacial

1898 *Acrocladium cuspidatum*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 194.] Quaternary

1899 *A. cuspidatum*. Bertrand, C. E. Description d'un échantillon de charbon papyracé [Ann. Soc. Géol. du Nord, XXVIII, p. 186.] Pleistocene

1904 *A. cuspidatum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.] Late glacial

1909 *A. cuspidatum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

1910 *Hypnum cuspidatum* L. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial

1911 *H. cuspidatum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.] Recent. Ice-land peat

1912 *H. cuspidatum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *H. cuspidatum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1912 *A. cuspidatum*. Hawkesworth, E. A pre-glacial Lake-bed near Northallerton. [Naturalist, 1912, p. 204.] Preglacial

1922 *H. cuspidatum*. Travis, W. G. On peaty bands in the Wallasey sandhills. [Proc. Liverpool Geol. Soc., III, p. 209.] Peat

1923 *A. cuspidatum*? Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 337, 521.] Quaternary

1924 *H. cuspidatum*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Dritter Teil. [Mitteil. aus dem Mineralog.-geol. Staats-institut, Heft VI, pp. 23, 26.] Glacial

[*Acrocladium squarrosum* (L.) Lindb., Jessen & Rasmussen in Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12 (1922) is an unknown species, and probably a *lapsus calami*.]

Acrocladium undetermined species.

1908 *Acrocladium* sp. Holst, N. O. Efterskörd från Lateglacial de senglaciala Lagren vid Toppeladugård [Sver. geol. Undersökning Arsbok, II, p. 16.]

Hygrohypnum Lindb.

(*Hypnum* § *Limnobium* auct.).

Hygrohypnum alpestre (Sw.) Loeske.

1903 *Hypnum alpestre* Sw. Range, Paul. Das Diluvial- Diluvial gebiet von Lübeck und seine Dryastone [Zeitschr. für Naturwiss., LXXVI, p. 254.]

Hygrohypnum dilatatum (Wils.) Loeske.

1910 *Amblystegium dilatatum* (Wils.) Lindb. Hesselbo, Diluvial A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1912 *Hypnum dilatatum* Wils. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Hygrohypnum lignitorum (Schimp.) Dix., comb. nov.

1869 *Hypnum lignitorum* Schimp. Traité de Pal. Végét., I, p. 253. Note. Neuweiler in Ber. d. Zürcher. bot. Ges. XV, p. 94 (1905) says "Zwischen H. palustre und H. ochraceum stehend". This is in agreement with Schimper's note; but Gams in his work on "Die Schieferkohlen der Schweiz", p. 28, cites Meylan as referring it to *Calliergon trifarium*, which does not seem probable.

Hygrohypnum molle (Dicks.) Loeske.

1910 *Amblystegium molle* (Dicks.) Lindb. ? Hesselbo, A. Diluvial Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1912 *Hypnum molle* Dicks. Dixon, H. N., in Warren, Late glacial S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Hygrohypnum ochraceum (Turn.) Loeske.

1869 *Hypnum ochraceum* Turn. Schimper, W. P. Traité de Pal. Végét., I, p. 253. Quaternary lignites,

1912 *Hyp. ochraceum*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

1914 *Hygr. ochraceum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 250.]

Hygrohypnum palustre (Huds.) Loeske.

1905 *Hypnum palustre* Huds. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 39.]

1910 *Hyp. palustre*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]
Note. The species is a little doubtful.

1923 *Hygr. palustre*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 336.]

1923 *Hygrohypnum* cfr. *palustre*. Baumberger, op. cit., pp. 145, 336.

Hygrohypnum Smithii (Sw.) Broth.

1912 *Hypnum arcticum* Sommerf. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX. p. 90.]

Campylium (Sull.) Bryhn.

Campylium chrysophyllum (Brid.) Bryhn.

1904 *Campylium chrysophyllum*. Bell, A. M. Implementerous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1910 *Amblystegium chrysophyllum* (Brid.) De Not. Hesselbø, A. Mosrester fra Diluviet ved Skærumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

1914 *Hypnum chrysophyllum* Brid. Weber, C. A. Die Mammutfloren von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 19.]

Campylium helodes (Spr.) Broth.

1907 *Hypnum elodes* Spr. ? Hartmann, F. Die Fossile Flora von Ingaramsdorf, p. 25.

1911 *H. elodes*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]

Campylium insubricum (Farneti) Dix., comb. nov.

1896 *Hypnum insubricum* sp. nov. Farneti, R. Ricerche di briol. palaeont al periodo glaciale. [Atti del Istit. Bot. della Reale Univers. di Pavia, Ser. II, vol. V, p. 53, t. IV.]
Note. The author refers this to *Campylium*.

Campylium polygamum (Bry. eur.) Bryhn.

1904 *Hypnum polygamum* (Bry. eur.) Wils. Reid, Clement. East Norfolk Geology. [Trans. Norf. & Norw. Nats. Soc., VII, p. 293.] Preglacial

1905 *H. polygamum*. Neuweiler, E. Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. Zürcherisch. bot. Ges., p. 98.] Interglacial

1909 *H. polygamum*. Travis, W. G. Plant remains in peat at Aintree. [Trans. Liverpool Bot. Soc., I, p. 5.] Peat

1909 *Amblystegium polygamum* Bry. eur. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

1910 *A. polygamum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *A. polygamum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1914 *A. polygamum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.] Glacial

1923 *Campylium polygamum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.] Diluvial

Campylium protensum (Brid.) Broth.

1902 *Amblystegium protensum* Lindb. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.] Late glacial

1910 *A. protensum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *Hypnum protensum* Brid. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1914 *H. protensum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.] Glacial

Campylium Sommerfeltii (Myr.) Bryhn.

1909 *Campylium Sommerfeltii*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.] Interglacial

Campylium stellatum (Schreb.) Lang. & Jens.

1888 *Campylium stellatum*. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.] Glacial

1902 *Amblystegium stellatum* (Schreb.) Lindb. Hartz, N. Bidrag til Danmarks senglaciale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 15.] Late glacial

1904 *C. stellatum*. Weber, C. A., in Müller G. Ueber eine fröhdiluviale Flora bei Lüneburg. [Abh. Kgl. preuss. geol. Landesanstalt und Bergakad., Heft 40, p. 16.] Preglacial

1904 *Hypnum stellatum* Schreb. Geinitz, E., und Weber, C. A. Ueber ein Moostorflager der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.] Postglacial

1907 *H. stellatum*? Hartmann, F. Die Fossile Flora von Ingaramsdorf, p. 14. Diluvial

1908 *H. stellatum*. Weber, C. A. Die Moostorfschichten zwischen Sarkau und Oran. [Engl. Bot. Jahrb., XLII, p. 43.] Recent

1909 *C. stellatum*. Nørregaard, E. M. Et senglacialt fra Dejbjerg Bakker [Meddel. fra Dansk geol. Fören., No. 15, p. 326.] Late glacial

1912 *H. stellatum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *H. stellatum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1914 *H. stellatum*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.] Glacial

1914 *C. stellatum*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Glacial

1915 *H. stellatum* (with some slight doubt). Camus, F. Sur les mousses trouvées dans un mammouth. [Compt. Rend. Acad. Par., CLX, p. 843.] Glacial

1917 *H. stellatum*. Rudolph, K. Untersuch. über den Aufbau böhmischer Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 84.] Recent

Campylium undetermined species.

1923 *Campylium* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotech. Ser., Lief. 8, p. 335.] Quaternary

Hyocomium Bry. eur.

Hyocomium flagellare (Dicks.) Bry. eur.

1910 *Hyocomium flagellare*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial

1919 *H. flagellare*. Gadeceau, E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. biol. de la France, etc., LIII, p. 295.] Postglacial

Ctenidium (Schimp.) Mitt.

Ctenidium molluscum (Hedw.) Mitt.

1911 *Hypnum molluscum* Hedw. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.] Recent. Ice-land peat

1923 *C. molluscum*. Baumberger, E., etc. Die diluvialen Quaternary Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.]

Rhytidadelphus (Lindb.) Warnst.

Rhytidadelphus loreus (Dill.) Warnst.

1910 *Hylocomium loreum* (Dill.) Bry. enr. Dixon, H. N. Postglacial Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1924 *Hyl. loreum*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.]

Rhytidadelphus squarrosus (L.) Warnst.

1853 *Hypnum squarrosum* L. Goeppert, H. R. Ueber Amber die Bernstein Flora. [Monatsber. d. Berliner Akad., 1853, p. 459.]

1888 *Hylocomium squarrosum* (L.) Bry. eur. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from Hoxne, in Suffolk. [Geol. Mag., Decade III, Vol. V, p. 444.]

1909 *Hyl. squarrosum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1910 *Hyl. squarrosum*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1922 *Hyl. squarrosum*. Jessen, Knud, og Rasmussen, R. Recent Et Profil Gennem en Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

1924 *Hyl. squarrosum*. Burrell, W. H. Pennine Peat. Recent [Naturalist, 1924, p. 148.]

Rhytidadelphus triquetter (L.) Warnst.

1898 *Hylocomium triquetrum* (L.) Bry. eur. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.]

1905 *Hyl. triquetrum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

1911 *Hyl. triquetrum*. Dixon, H. N., in Lewis, F. J. The plant remains in the Scottish peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 831.]

1914 *Rhytidadelphus triquetter*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.]

1918-20 *R. triquetter*. Docturowsky, V. S., and Kudriashov, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

1920 *Hyl. triquetrum*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.]

1923 *Hyl. triquetrum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 337.]

Rhytidium (Sull.) Kindb.**Rhytidium rugosum (Ehrh.) Kindb.**

1908 *Hylocomium rugosum* ((Ehrh.) Bry. eur. Holst, Late glacial
N. O. Efterskōd från de senglaciala Lagren vid
Toppeladugård [Sver. geol. Undersökning
Arsbok, II, p. 19.]

1910 *Hyl. rugosum*. Hesselbo, A. Mosrester fra Dilu-
viet ved Skaerumhede. [Danmarks geol. Under-
søgelse, II Raekke, No. 25, p. 108.]

1914 *R. rugosum*. Zmuda, A. J. Fossile Flora des Diluvial
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-
covie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

Hylocomium Bry. eur.**Hylocomium brevirostre (Ehrh.) Bry. eur.**

1905 *Hylocomium brevirostre*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]
Note. This is said to have been determined as *Brachythecium rutabulum* by Uhlmann.

1910 *Hyl. brevirostre*. Dixon, H. N. Some "Neolithic" Postglacial
moss remains from Fort William. [Ann. Scott. Hist., 1910, p. 105.]

1923 *Hyl. brevirostre*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 146, 338.]

Hylocomium proliferum (L.) Lindb.

1898 *Hylocomium proliferum*. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.]

1902 *Hyl. splendens* (Dill.) Bry. eur. Hartz, N. Bidrag til Danmarks senglaciiale Fl. og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, pp. 11, 15, 18.]

1903 *Hypnum splendens* Dill. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone Diluvial [Zeitschr. f. Naturwiss., LXXVI, p. 269.]

1905 *Hypnum splendens*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 40.]

1909 *Hyl. proliferum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1911 *Hyl. splendens*. Dixon, H. N., in Lewis, F. J. Recent; Ice-
The plant remains in the Scottish peat mosses. land peat Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]

1912 *Hyl. splendens*. Stark, P. Beitr. zur Kenntn. der Glacial
eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1914 *Hyl. splendens*. Zmuda, A. J. Fossile Flora des Diluvial
Krakauer Diluviums. [Bull. int. Acad. Sci. Cra-
covie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1922 *Hyl. proliferum*. Jessen, Knud, og Rasmussen, R. Recent
Et Profil Gennem en Tørvemose paa Faerøerne.
Danmarks geol. Undersøgelse, IV Raekke, No. 13,
p. 12.]

1923 *Hyl. splendens*. Baumberger, E., etc. Die dilu-
vialen Schieferkohlen der Schweiz. [Beitr. Geol.
Schweiz, geotechn. Ser., Lief. 8, pp. 146, 286, 338.]

1924 *Hyl. splendens*. Burrell, W. H. Pennine Peat. Recent
[Naturalist, 1924, p. 148.]

***Hylocomium pyrenaicum* (Spr.) Lindb.**

1912 *Hylocomium pyrenaicum*. Stark, P. Beitr. zur Glacial
Kenntn. der eiszeitlich. Fl. und Fauna Badens.
[Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

***Hylocomium* undetermined species.**

1909 *Hylocomium* sp. Travis, W. G. Plant remains Peat
in peat at Aintree. [Trans. Liverpool Bot.
Soc., I, p. 5.]

***Hypnum* Dill. ex. p.**

***Hypnum Schreberi* Willd.**

1898 *Hylocomium parietinum* (L.) Lindb. Andersson, Gunnar. Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 136.]

1900 *Hypnum Schreberi*. Gepp, A. Fossil plant re-
mains in peat. [Journ. of Bot., XXXIII, p. 181.]

1902 *Hyl. parietinum*. Hartz, N. Bidrag til Danmarks senglaciiale Flora og Fauna. [Danmarks geol. Undersøgelse, II Raekke, No. 11, p. 11.]

1905 *Hyp. Schreberi*. Neuweiler, E. Die prähistor. Pflanzenreste Mittereuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 40.]

1908 *Hyl. parietinum*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård [Sver. geol. Undersökning Arsbok, II, p. 19.]

1909 *Hyl. parietinum*. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 260.]

1912 *Hylocomium Schreberi* (Willd.) De Not. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1914 *Hyp. Schreberi*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracoviae d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1922 *Hyl. parietinum*. Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerøerne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

1923 *Hyp. Schreberi*. Baumberger, E., etc. Die dilu-
vialen Schieferkohlen der Schweiz. [Beitr. Geol.
Schweiz, geotechn. Ser., Lief. 8, pp. 146, 338.]

Ptilium (Sull.) De Not.**Ptilium crista-castrensis (L.) De Not.**

1914 *Ptilium crista-castrensis*. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. Sc. math. et nat., Sér. B, No. 2B, p. 249.]

Stereodon (Brid.) Mitt.**Stereodon arcuatus Lindb.**

1907 *Stereodon* cfr. *arcuatus*. Holst, N. O. Preglacial Preglacial Dryasförande nära Ystad. [Geol. Fören. Förh., XXIX, p. 232.]

1914 *Hypnum Lindbergii* Mitt. Weber, C. A. Die Mammutflora von Bori u. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.]

Stereodon callichroum Brid.

1912 *Hypnum callichroum* (Brid.) C. M. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

1912 *H. callichroum*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Stereodon cupressiformis (L.) Brid.

1900 *Hypnum cupressiforme* L. Gepp, A. Fossil plant- remains in peat. [Journ. of Bot., XXXIII, p. 181.] Recent; sub- marine peat

1903 *H. cupressiforme*. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone [Zeitschr. für Naturwiss., LXXVI, p. 254.] Diluvial

1905 *H. cupressiforme*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.] Pleistocene

1909 *Stereodon cupressiformis*. Hartz, N. Bidrag til Danmarks tertiaære Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Diluvial

1910 *H. cupressiforme*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.] Postglacial

1913 *S. cupressiformis*. Beyle, M. Ueber einige Ablag. der Hamburger Gegend. Erster Teil. [Jahrb. der Hamburg. wiss. Anst., XXX, 6, Beih., p. 83.] Quaternary

1914 *S. cupressiformis*. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.] Diluvial

1923 *S. cupressiformis*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 336.] Quaternary

1923 *S. cupressiformis* var. *filiformis* (Brid.). Baumberger, op. cit., p. 336. Quaternary

1924 *H. cupressiforme*. Burrell, W. H. Pennine Peat. [Naturalist, 1924, p. 148.] Peat

Stereodon fastigiatus Brid.

1912 *Hypnum fastigiatum* (Brid.) Hartm. Dixon, H. N., Late glacial in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Stereodon fertilis (Sendtn.) Lindb.

1912 *Hypnum fertile* Sendtn. Stark, P. Beitr. zur Glacial Kenntniss der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Stereodon hamulosus (Bry. eur.) Lindb.

1914 *Hypnum hamulosum* Bry. eur. Weber, C. A. Die Glacial Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 20.]

Stereodon pallescens (Hedw.) Lindb.

1912 *Stereodon pallescens*. Stark, P. Beitr. zur Kenntn. Glacial der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Stereodon pratensis (Koch) Warnst.

1911 *Hypnum pratense* Koch ? Dixon, H. N., in Lewis, Recent; Ice-F. J. The plant remains in the Scottish peat land peat mosses. Part IV. [Trans. Roy. Soc. Edinb., XLVII, p. 830.]
Note. A single fragment found, probably belonging here.

1911 *Hypnum pratense* Koch. Dixon, H. N., op. et loc. Recent; Ice-land peat
Note. From a different layer. Either this or *S. arcuatus*, probably *S. pratensis*.

1914 *H. pratense*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 1, p. 21.]

Stereodon recurvans (Schwaegr.) Broth.

1900 *Hypnum recurvans* Schwaegr. Penhallow, D. P. Pleistocene Canadian Pleistocene Flora of the Don Valley. [Rep. of 70th Meeting, Brit. Assoc., Bradford. Part II, p. 335.]

1920 *Sematophyllum recurvans* (Schwaegr.) E. G. Britt. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 334, 335, 377.]

Stereodon reptilis (Rich.) Mitt.

1907 *Hypnum reptile* (Rich.) ? Hartmann, F. Die Fossile Diluvial Flora von Ingamsdorf, p. 14.

1912 *H. reptile*. Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Stereodon revolutus Mitt.

1910 *Stereodon revolutus*. Hesselbo, A. Mosrester fra Diluvial Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

Stereodon Vaucherii (Lesq.) Lindb.

1912 *Hypnum Vaucherii* Lesq. Dixon, H. N., in Warren, Late glacial S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Isopterygium Mitt.**Isopterygium pulchellum** (Dicks.) Jaeg.

1912 *Plagiothecium pulchellum* (Dicks.) Bry. eur. Stark, Glacial P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Plagiothecium Bry. eur.**Plagiothecium latebricola** (Wils.) Bry. eur.

1912 *Plagiothecium latebricola*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Plagiothecium Roeseanum (Hamp.) Bry. eur.

1920 *Plagiothecium denticulatum* (L.) Roeseanum(Hamp.) Pleistocene Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 126, 184, 377.]

Plagiothecium Ruthei Limpr.

1912 *Plagiothecium Ruthei* var. *rupincola* Limpr. Stark, Glacial P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Plagiothecium silvaticum (Huds.) Bry. eur.

1914 *Plagiothecium silvaticum*. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2B, p. 249.]

Plagiothecium striatellum (Brid.) Lindb.

1912 *Plagiothecium Muehlenbeckii* (Schimp.) Bry. eur. Glacial Stark, P. Beitr. zur Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Plagiothecium undulatum (L.) Bry. eur.

1910 *Plagiothecium undulatum*. Dixon, H. N. Some Postglacial "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

Brachytheciaceae.**Homalothecium** Bry. eur.**Homalothecium sericeum** (L.) Bry. eur.

1909 *Hypnum sericeum* L. Hartz, N. Bidrag til Danmarks tertiære Flora. [Danmarks geol. Undersøgelse, II Raække, No. 20, p. 261.]

1914 *Homalothecium sericeum*. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

1915 *Hom. sericeum*. Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.]

1918—20 *Hom. sericeum*. Docturowsky, V. S., and Kudriashchev, V. Results of Russian studies on peat moors. [Reports on Peat, 4.]

1923 *Hom. sericeum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.]

Camptothecium Bry. eur.**Camptothecium nitens** (Schreb.) Schimp.

1899 *Camptothecium nitens*. Weber, C. in Koert, W., Interglacial and Weber. Ueber ein neues interglaciales Torflager. [Jahrb. der Kgl. preuss. geol. Landesanstalt für 1899, pp. 190, 191.]

1900 *C. nitens*. Dixon, H. N. Plant-remains in peat. Peat [Journ. of Bot., XXXIII, p. 216.]

1903 *Hypnum trichoides* Neck. Range, Paul. Das Diluvialgebiet von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 269.]

1904 *C. nitens*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1904 *C. nitens*. Geinitz, E., und Weber, C. A. Ueber ein Moostorflager ... der Rostocker Heide. [Arch. d. Ver. d. Fr. d. Naturgesch. in Mecklenburg, LVIII, p. 13.]

1907 *C. nitens*. Dixon, H. N., in Lewis, F. J. Summary of Progress for 1907, p. 99. [Mem. Geol. Survey.]

1908 *C. nitens*. Weber, C. A. Die Moostorfschichten ... zwischen Sarkau und Cranz. [Engl. Bot. Jahrb., XLII, p. 43.]

1908 *Hypnum trichoides*. Holst, N. O. Efterskörd från de senglaciala Lagren vid Toppeladugård. [Sver. geol. Undersökning Arsbok, II, No. 2, p. 19.]

1909 *C. nitens*. Schuster, J. Paläobot. Not. aus Bay- ern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] Schiefer- kohlen

1910 *H. trichoides*. Hesselbo, A. Mosrester fra Dilu- viet ved Skaerumhede. [Danmarks geol. Under- søgelse, II Raekke, No. 25, p. 108.] Diluvial

1912 *C. nitens*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. [Quart. Journ. Geol. Soc., LXVIII, p. 231.] Late glacial

1912 *C. nitens*. Stark, P. Beitr. zur Kenntn. der eis- zeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.] Glacial

1914 *C. nitens*. Weber, C. A. Die Mammutflora von Borna. [Abh. Nat. Ver. Bremen, XXIII, Heft 2, p. 18.] Glacial

1914 *Tomentypnum nitens* (Schreb.) Loeske. Zmuda, A. J. Fossile Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 247.] Diluvial

1917 *C. nitens*. Rudolph, K. Untersuch. über den Auf- bau böhmischer Moore. [Abh. k. k. zool.-bot. Ges. Wien, IX, p. 82.] Pleistocene

1918 *C. nitens*. Beyle, M. Ueber einige Ablag. fossiler Pflanzen der Hamburger Gegend. Zweiter Teil. [Jahrb. der Hamburg. wiss. Anst., XXXVI, p. 40.] Glacial

1920 *C. nitens*. Baker, Frank C. The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 228, 241, 377.] Pleistocene

1923 *C. nitens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.] Quaternary

Camptothecium lutescens (Huds.) Bry. eur.

1905 *Camptothecium lutescens*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Viertel- jahr. naturforsch. Ges. Zürich, L, Heft 6, pp. 37, 40.] Pleistocene

1909 *Hypnum lutescens* Huds. Hartz, N. Bidrag til Danmarks tertiaære Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.] Interglacial

1923 *C. lutescens*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 334.] Quaternary

Camptothecium Woldenii Grout.

1917 *C. Woldenii* Grout, A. J. A Fossil Camptothecium. [Bryologist, XX, p. 9, t. I.] Kansan Drift

Note. Grout states that this is nearest to *C. pinnatifidum* and *C. aureum*, but differs clearly from both.

Brachythecium Bry. eur.

Brachythecium albicans (Neck.) Bry. eur.

1898 *Hypnum near albicans* Neck. Andersson, Gunnar. Quaternary Stud. öfver Finlands Kvartärflora. [Bull. de la Commission géol. de Finlande, Tome 2, No. 8, p. 137.]

1910 *H. albicans* Neck. Hesselbo, A. Mosrester fra Diluvial Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

Brachythecium glareosum (Bruch) Bry. eur.

1904 *Brachythecium glareosum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). Late glacial [Quart. Journ. Geol. Soc., LX, p. 124.]

Brachythecium Mildeanum (Schimp.) Schimp.

1912 *Brachythecium Mildeanum*. Dixon, H. N., in Warren, S. H. A late Glacial stage in the Lea Valley. Late glacial [Quart. Journ. Geol. Soc., LXVIII, p. 231.]

Brachythecium plumosum (Sw.) Bry. eur.

1889 *Brachythecium plumosum*. Candler, Chas. Observations on some Deposits at Saint Cross in Suffolk. [Quart. Journ. Geol. Soc., XLV, p. 507.]

1910 *B. plumosum*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1910 *B. plumosum*. Hesselbo, A. Mosrester fra Diluviet ved Skaerumhede. [Danmarks geol. Undersøgelse, II Raekke, No. 25, p. 108.]

Brachythecium reflexum (Stark) Bry. eur.

1912 *Brachythecium reflexum*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 90.]

Brachythecium rivulare (Bruch) Bry. eur.

1923 *Brachythecium cfr. rivulare*. Baumberger, E., etc. Quaternary Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, pp. 145, 335.]

Brachythecium rutabulum (L.) Bry. eur.

1888 *Brachythecium rutabulum*. Reid, Clement, and Ridley, H. N. Fossil Arctic Plants from Hoxne, in Suffolk. Geol. Mag., Decade III, Vol. V, p. 444.]

1904 *B. rutabulum*. Bell, A. M. Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1905 *B. rutabulum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 40.]

1909 *Hypnum rutabulum* L. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *B. rutabulum*. Dixon, H. N. Some "Neolithic" Postglacial moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

Brachythecium salebrosum (Hoffm.) Bry. eur.

1909 *Hypnum salebrosum* Hoffm. Hartz, N. Bidrag til Interglacial Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

Brachythecium turgidum (Hartm.) Hartm. f.

1914 B. *turgidum*. Zmuda, A. J. Fossile Flora des Diluvial Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

Brachythecium velutinum (L.) Bry. eur.

1909 *Hypnum velutinum* L. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1914 *Brachythecium velutinum*. Zmuda, A. J. Fossile Diluvial Flora des Krakauer Diluviums. [Bull. int. Acad. Sci. Cracovie d. sc. math. et nat., Sér. B, No. 2 B, p. 249.]

Brachythecium undetermined species.

1920 *Brachythecium* sp. Reid, E. M. Two preglacial Pliocene Floras of Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.]

1922 *Brachythecium* sp. Jessen, Knud, og Rasmussen, R. Recent Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

1923 *Brachythecium* sp. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 521.]

1925 *Brachythecium* sp. Dixon, H. N. Moss Remains Interglacial in Russian Peat. [Journ. of Bot. LXIII, p. 370.]

1925 *Brachythecium* sp. Weyland, H. Beitr. zur Kenntn. Upper fossiler Moose. I. [Senckenbergiana, VII, Heft 1/2, p. 52, t. III.] Pliocene

Scleropodium Bry. eur.**Scleropodium purum** (L.) Limpr.

1909 *Hypnum purum* L. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1909 *H. purum*. Schuster, J. Paläobot. Not. aus Bayern. [Ber. bayer. bot. Ges., XII, 1, p. 58.] Schieferkohlen

1911 *H. purum*. Stoller, J. Die Flora der jungglazialen Early Ablag. Ostpreussens. [Jahrb. d. Kgl. preuss. geol. Landesanstalt, XXXI, t. II, Heft 1, p. 123.] glacial

Scorpiurium Schimp.**Scorpiurium deflexifolium** (Solms) Schimp.

1923 *Eurhynchium circinatum* (Brid.) var. *deflexifolium* (Solms) Boul. Douin, R. Les mousses fossiles

des tufts du Lautaret. [Rev. Génér. de Bot., XXXV, p. 121.]

Cirriphyllum Grout.

Cirriphyllum cirrosum (Schwaegr.) Grout.

1910 *Hypnum cirrosum* Schwaegr. Hesselbo, A. Mos- Diluvial
rester fra Diluviet ved Skaerumhede. [Danmarks
geol. Undersøgelse, II Raekke, No. 25, p. 108.]

Cirriphyllum Vaucheri (Bry. eur. ex p.) Loeske & Fleisch.

1925 *Eurhynchium* sp. ? *Tommasinii* (Sendtn.) Ruthe. Upper
Weyland, H. Beitr. zur Kenntn. fossiler Moose. I.
[Senckenbergiana, VII, Heft 1/2, p. 52, t. III.]

Note. This is the plant recorded as *Eurhynchium* sp. by Engelhardt & Kinkelin, Oberpliocäne Flora des Frankfurter Klärbeckens, in Abh. Senckenb. naturforsch. Ges., XXIX, p. 188, t. XXII, figs. 9—13. The figures there show an entire leaf, apparently nerveless, very concave, and with recurved margins; and strongly suggest *Plagiothecium piliferum*. Weyland however who has examined the specimens figures and describes the piliform acumen as clearly toothed, and states that the margin is frequently *incurved*; the nerve is stated by him to be not present in the upper part of the leaf, while the lower part of the leaf does not permit of observation. He considers it may be *C. Tommasinii* (*Vaucheri*) or possibly *C. cirrosum*.

Oxyrrhynchium Warnst.

Oxyrrhynchium paelongum (Bry. eur.) Warnst.

[Note. There is considerable confusion about this and *Eurhynchium Stokesii*. The plant described as *Eurh. paelongum* (L.) in the *Bry. eur.* is not *Hypnum paelongum* L., which is the plant usually known as *Eurh. Stokesii*. It is therefore not always clear to which of these two plants a record of "*H. paelongum*" or "*Eurh. paelongum*" refers.]

1904 *Eurhynchium Swartzii* (Turn.) Hobk. Bell, A. M. Late glacial
Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1905 *Eurhynchium paelongum* Bry. eur. Neuweiler, E. Pleistocene
Die prähistor. Pflanzenreste Mitteleuropas
[Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6,
p. 38.]

1912 *E. paelongum*. Stark, P. Beitr. zur Kenntn. der
eiszeitlich. Fl. und Fauna Badens. [Ber. naturforsch. Ges. Freiburg i. B., XIX, p. 116.]

1913 *E. paelongum*. Beyle, M. Ueber eine Ablag. fossiler
Pflanzen der Hamburger Gegend. [Jahrb. Hamburg. wiss. Anstalt, XXX, 6, Beih., p. 83.]

1918—20 *O. paelongum*. Docturowsky, V. S., and Kudriashchev, V. Results of Russian studies on peat
moors. [Reports on Peat, 4.] Postglacial

1920 *E. Swartzii* (Turn.) Hobk. Reid, E. M. Two pre-glacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.]

1922 *E. praelongum*. Jessen, Knud, og Rasmussen, R. Recent Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

1923 *E. praelongum*. Baumberger, E. etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.]

Oxyrrhynchium rusciforme (Neck.) Warnst.

1910 *Eurhynchium rusciforme* (Neck.) Milde. Dixon, H. Postglacial N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

Oxyrrhynchium speciosum (Brid.) Warnst.

1904 *Eurhynchium speciosum* (Brid.) Milde. Bell, A. M. Lateglacial Implementiferous Sections at Wolvercote (Oxfordshire). [Quart. Journ. Geol. Soc., LX, p. 124.]

1915 *E. speciosum*. Reid, Clement and E. M. The Pliocene Floras of the Dutch-Prussian Border. [Med. van de Rijksopspor. van Delfstoffen, No. 6, p. 53.]

Oxyrrhynchium Swartzii (Turn.) Warnst.

1909 *Hypnum Swartzii* Turn. Hartz, N. Bidrag til Interglacial Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1919 *Eurhynchium Swartzii* (Turn.) Bry. eur. Gadeceau, Postglacial E. Les Forêts submergées de Belle-Ile-en-mer. [Bull. Biol. de la France, etc., LIII, p. 295.]

1923 *E. Swartzii*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.]

Eurhynchium Bry. eur.

Eurhynchium Stokesii (Turn.) Bry. eur.

1909 *Hypnum praelongum* L. Hartz, N. Bidrag til Interglacial Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *Eurhynchium praelongum* (L.) Hobk. Dixon, H. Postglacial N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1920 *E. praelongum*. Reid, E. M. Two preglacial Floras from Castle Eden. [Quart. Journ. Geol. Soc., LXXVI, p. 111.]

1922 *E. Stokesii* (Stokesii, false). Jessen, Knud, og Rasmussen, R. Et Profil Gennem en Tørvemose paa Faerørne. [Danmarks geol. Undersøgelse, IV Raekke, No. 13, p. 12.]

Eurhynchium striatum (Spr.) Bry. eur.

1912 *Eurhynchium cfr. striatum*. Stark, P. Beitr. zur Glacial Kenntn. der eiszeitlich. Fl. und Fauna Badens.

[Ber. naturforsch. Ges. Freiburg i. B., XIX,
p. 116.]

1923 *E. striatum*. Baumberger, E., etc. Die diluvialen Schieferkohlen der Schweiz. [Beitr. Geol. Schweiz, geotechn. Ser., Lief. 8, p. 335.]

1923 *E. striatum* var. *integrifolium*. Baumberger, op. et loc. cit.

***Eurhynchium striatum* (Schreb.) Schimp.**

1905 *Eurhynchium striatum*. Neuweiler, E. Die prähistor. Pflanzenreste Mitteleuropas [Vierteljahr. naturforsch. Ges. Zürich, L, Heft 6, p. 38.]

1909 *Hypnum striatum* Schreb. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

1910 *E. striatum*. Dixon, H. N. Some "Neolithic" moss remains from Fort William. [Ann. Scott. Nat. Hist., 1910, p. 105.]

1911 *H. striatum*. Stoller, J. Beitr. zur Kenntn. der diluv. Flora Norddeutschlands. [Jahrb. Kgl. preuss. geol. Landesanstalt, XXXII, Teil 1, Heft 1, p. 135.]

***Eurhynchium strigosum* (Hoffm.) Bry. eur.**

1909 *Hypnum strigosum* Hoffm. Hartz, N. Bidrag til Danmarks tertiaere Flora. [Danmarks geol. Undersøgelse, II Raekke, No. 20, p. 261.]

***Eurhynchium* spec. Eng. et Kink.
cf. *Cirriphyllum* Vaucheri Loeske et Fl.**

***Rhynchosstegium* Bry. eur.**

***Rhynchosstegium Knowltoni* E. G. Britt.**

1899 *Rhynchosstegium Knowltoni* E. G. Britt. A new Miocene or Tertiary fossil Moss, in Bull. Torr. Bot. Club, Upper XXVI, p. 79, with text figure (repeated op. cit., XXXIV, 1907, t. 9, fig. 5).

***Hypnodendron* (C. M.) Lindb.**

1922 *Hypnodendron arboreascens* (Mitt.) Lindb., or *H. Reinwardtii* (Hornsch.) Lindb. Dixon, H. N. Note on a moss in amber. [Journ. of Bot., LX, p. 149, with text-figure.]

Note. The fragment of branch might very well belong to either of the above species. *H. arboreascens* is known from the Malay Peninsula, but *H. Reinwardtii* has not been recorded from continental Asia.

Excluded and doubtful genera and species.

***Cryptothecium antediluvianum* Hueb.**

Cryptothecium antediluvianum nov. gen. & sp. Tertiary Huebener MS. in Weber, C. O. Die Tertiärfloren der niederrhein. Braunkohlenformationen, in Palaeontographica, II, p. 228 (1852).

This is stated by Schimper to be a species of *Sphagnum*.

Hypnites haeringianus Ett.

Hypnites haeringianus nov. gen. & sp. Ett. Tertiary; tingshausen, C. von. Die Tertiärflora von Haering, in Abh. d. geol. Reichsanstalt, Wien, II, schiste calcaire bitumineux p. 27, t. IV (1852).

Syn. *Hypnum haeringianum* Schimp., Traité de Pal. Végét., I, p. 249. Schimper considers this to belong to the *Hypna adunca*.

Hypnum armisanense Schimp. cf. *Muscites pulvinatus*.

Hypnum Brownii Kirchner.

1898 *Hypnum Brownii* Kirchner, C. G. Walter. Contrib. to the fossil flora of Florissant, Colorado. [Trans. Acad. Sci. St. Louis, VIII, p. 178, t. XIII]. cfr. also Knowlton, F. H. A review of the fossil plants in the U. S. Nat. Mus. in Proc. U. S. Nat. Mus., LI (1916), p. 245. See also Britton & Hollick, Bull. Torr. Bot. Club, XXXIV, p. 139—140, t. IX. The author compares it with *Brachythecium populeum*, but the figures do not suggest that, the leaves being broader and shorter. "Brachytheciod" seems as near as it seems safe to go.

Hypnum carbonarium Ludw.

1859 *Hypnum carbonarium* Ludwig, R. Fossile Pflanzen aus der Rheinisch-Wetterauer-Tertiär-Formation. [Palaeontographica, VIII, p. 62, t. IX and XXIV].

The figures rather suggest a *Fontinalis*. Schimper thinks a *Hypnum* (Traité de Pal. Végét., I, p. 248).

Tertiary
Lignites of
Salzhausen

Hypnum columbianum Penhallow.

1890 *Hypnum columbianum* Penhallow, D. P., in Dawson, Sir Wm., Trans. Roy. Soc. Canada, VIII, Pt. 4, p. 77, fig. 3.

Britton and Hollick, Bull. Torr. Bot. Club, XXXIV, p. 140, t. IX, fig. 4, consider this to be a conifer, near to *Widdringtonia helvetica* Heer, or *Glyptostrobus Ungerii* Heer.

Lower Tertiary

Hypnum Haydenii Lesq.

1878 *Hypnum Haydenii* Lesq. in Hayden, F. V. Tertiary Flora of U. S. [Rep. of U. S. A. Geol. Survey, VII, p. 44].

Cockerell, T. D. A. [A Redwood described as a Moss, *Torreya*, VII, p. 203 (1907),] shows this to be a conifer, *Sequoia Haydenii* (Lesq.) Cock.

Tertiary

Hypnum Heerii Schimp.

1855—59 *Hypnum Schimperi* Heer. Flora tertiaria Helveticae, I, p. 28, t. III (nec *H. Schimperianum* Fossilium Catalogus II. 13.

Lor. 1864; nec *H. Schimperi* (Ung.) Schimp.) Schimper (Traité de Pal. Végét., I, p. 247) alters the name to *H. Heerii*, in view of the earlier *H. Schimperianum* and *Muscites Schimperi* Ung. He compares it with *Amblystegium serpens*, but the resemblance cannot be very close; the leaves being longer and narrower, with an apparently percurrent nerve.

Hypnum Heppii Heer.

1855—59 *Hypnum Heppii* Heer. Fl. tertiaria Helveticæ, I, p. 28, t. III.

Syn. *Hygroamblystegium Heppii* (Heer) Broth. in Engler, Die Natürlich. Pflanzenfam., Musci, II, p. 523 (1925).

Schimper figures this, Traité de Pal. Végét., t. VI, figs. 20, 21 (not 17, 18, 19, as in the text). He considers it to be nearest to *Amblystegium irriguum* var. *fallax*, but the leaves are, as he says, too narrow. It suggests to me a *Drepanocladus*, of the *fluitans* group, but the acumen is perhaps too broad, and the dimensions rather small.

Hypnum Mastodontum Boul.

1892 *Hypnum Mastodontum* Boul., N., Flore pliocène du Mont-Dore, p. 45, f. 9.

Boulay suggests *Amblystegium riparium* as the nearest affinity, but agrees that it cannot be that. The upper cells are shortly linear; no distinct alar cells visible.

1903 *Hypnum* cfr. *Mastodontum* Boul. Marty, P. Flore Miocène de Joursac. Rev. Haute Auvergne, 1903, p. 18, t. I, figs. 7—10].

This does not appear to have been critically examined. All one can say is that it is a pleurocarpous moss, with lanceolate, single-nerved leaves.

Hypnum plumula Schimp.

1869 *Hypnum plumula* Schimp., Traité de Pal. Végét., I, p. 248.

According to Schimper this is "une forme exotique", not allied to any European moss. It is not figured.

Hypnum priscum Schimp.

1865 *Hypnum priscum* Schimp. in Heer, O. Die Urwelt der Schweiz, 1. Aufl., p. 497.

Schimper says this is very close to *Calliergon sarmentosum*. Gams, in Vierteljahrsschr. naturforsch. Ges. Zürich, LXIII, p. 28 (1913) states that according to Meylan it is between *Calliergon giganteum* and *Scorpidium scorpioides*.

Quaternary lignites of Dürnten, Switzerland

Hypnum Saportanum Schimp. cfr. *Muscites setosus*.**Hypnum Schimperi** (Ung.) Schimp.

1869 *Hypnum Schimperi* (Ung.) Schimp. *Traité de Pal. Végét.*, 1, p. 246. *Muscites Schimperi* Ung. *Genera et Spec. Plant. Fossil.*, p. 42 (1850); and *Iconograph. plant. fossil.*, in *Denkschr. d. k. k. Akad. d. Wissensch.*, Wien, 1852, p. 10, t. IV; and p. 82, t. XXVII, Figs. 1, 2.
 Unger compares it with *Campylium stellatum* ("admodum convenit"). *Ettingshausen*, in *Denkschr. d. k. k. Akad. d. Wissensch.*, Wien, XXXVIII, Abth. 1, figures on t. V, figs. 7-9 a separate capsule, associated with the vegetative fragments. I have examined the specimen on which this is based, in the Geol. Dept. of the British Museum (No. 592). It may be the impression of a moss capsule, but if so it is much more like *Catoscopium* than *Hypnum*!
 Schimper considers it of doubtful affinity.

Hypnum Schimperi Heer. cfr. *Hypnum Heerii*.**Hypnum Taramellianum** Farneti.

1896 *Hyp. Taramellianum* Farn. *Ricerche di briol. paleont. al periodo glaciale.* [Atti dell'Istit. Bot. della Reale Univ. di Pavia, Ser. II, vol. V, p. 56, t. IV] cf. also Schilbersky, K. Ein Laubm. aus dem Pleistocän von Kecskemét [Math. Termtud. Ertesítő, XXX (1912) p. 632] text and figures. The author says it recalls *Scleropodium purum*, *Drepanocladus turgescens*, *Acrocladium euspidatum*, etc., and does not venture to place it. The figure looks to me more like a *Hygrohypnum* (e. g. *H. molle* or *H. dilatatum*) than any of the above.

Hypnum Ungerii Schimp.

1869 *Hyp. Ungerii* Schimp. *Traité de Pal. Végét.*, I, p. 247.
Muscites hypnooides Ung. *Iconograph. plant. fossil.*, in *Denkschr. d. k. k. Akad. d. Wissenschaft.*, Wien, 1852, p. 11, t. IV.

Probably, according to Schimper, a submerged or floating form of a riparian moss.

Hypnum viride.

1909 *Hypnum viride*. Hartz, N. *Bidrag til Danmarks tertiære Flora.* [Danmarks geol. Undersøgelse, II Raække, No. 20, p. 261.]
 This may refer either to *H. viride* Lam. (*Brachythecium populeum*), or to *H. viride* Schleich. (*Amblystegium serpens*).

Hypnum Weberianum Schimp.

1856 *Hypnum Weberianum* Schimp., *Traité de Pal. Végét.*, I, p. 249.

Hyp. lycopodioides Weber, C. O. in Wessel & Weber, *Neuer Beitrag zur Tertiärflora der niederrhein. Braunkohlformation. [Palaeontographica, IV, p. 126, t. XXX, f. 12]* (nec *H. lycopodioides* Brid.).

Schimper compares it to *Brachythecium salebrosum* or *Antitrichia curtipendula*, but with leaves narrowly linear-lanceolate. He does not suggest any closer affinity. The figure shows a well preserved moss with regularly plumose stems; it suggests to me an aquatic *Drepanocladus*, e. g. a *fluitans* form, rather than either of the above plants. The name was given by Weber in reference to a supposed resemblance to certain Lycopods, and has no connection with *Drepanocladus lycopodioides* (Brid.). The name was altered by Schimper to *H. Weberianum*, rather unfortunately, in view of *H. Weberianum* Goepp., which latter Schimper referred to *Drepanocladus Sendtneri*.

Hypnum Spp.

1892 *Hypnum* sp. Boulay, N. *Flore pliocène du Mont Pliocene Dore*, p. 45.

The author compares with *Hygrohypnum filicinum* and *Cratoneuron commutatum*.

1900 *Hypnum* sp. Penhallow, D. P. *Canadian Pleistocene Flora of the Don Valley. [Rep. of Brit. Assoc., 1900, Bradford. Pt. II, p. 336.]*

1903 *Hypnum* sp. Range, Paul. *Das Diluvialgebiet von Lübeck und seine Dryastone [Zeitschr. f. Naturwiss., LXXVI, p. 191 bis].*

1903 *Hypnum* sp. Range, Paul, op. cit., p. 257.

1905 *Hypnum* sp. Neuweiler, E. *Zur Interglazialflora der schweizerisch. Schieferkohlen. [Ber. d. schweizerisch. bot. Ges., Heft XV. Beilage. Neunter Ber. d. zürcherisch. bot. Ges., p. 94].*

The author comments "entspricht dem *H. sarmatosum* und *trifarium*".

1907 *Hypnum* sp. Hartmann, F. *Die fossile Flora von Ingaramsdorf*, p. 14.

1908 *Hypnum* sp. Dixon, H. N., in Lewis, F. J. *The Plant Remains in the Scottish Peat Mosses. Part III. [Trans. Roy. Soc. Edinb., XLVI, p. 40.]*

1920 *Hypnum* sp. Baker, Frank, C. *The life of the Pleistocene or glacial period. [Univ. of Illinois Bull., XVII, pp. 27, 87, 101, 329.]*

1923 *Hypnum* sp. Douin, R. *Les mousses fossiles des tufs du Lautaret. Rev. Gén. Bot., XXXV, p. 120.]*

Lycopodites Meekii Lesq.

Lycopodites Meekii Lesq. It has been suggested by Solms-Laubach (*Fossil Botany*, p. 186, 1891) that this fossil, figured by Lesquereux

in 2nd Geol. Surv. Penn., Rep. of Progress P. Harrisburg, 1879, t. LXII, f. 1, may be a moss. Seward however shows that this is untenable, and remarks that it resembles closely *Selaginella Oregana*. It has no real claim to be considered a Bryophyte.

Muscites

Muscites Brongn., Hist. des Végétaux Fossiles, p. 93 (1828).

The diagnosis is preceded by a note that the author designated under this genus such fossil mosses as could not be determined as belonging to any living genus.

Muscites apiculatus Goepp. & Ber.

1845 *Muscites apiculatus* Goepp. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 111, t. VI, fig. 32.

Syn. *Barbula subcanescens* Goepp. & Ber. in Goeppert, H. R. Ueber die Bernsteinflora, p. 458.

Schimper, Traité de Pal. Végét., I, p. 243, says of this "plus que problématique". Caspary (Flora d. Bernsteins, in Abh. Kgl. preuss. geol. Landesanstalt, N. F., Heft 4,) says of this that it "ist auch kein Moos".

Schimper adds that it can in no case belong to *Barbula*, and says that a single leaf suggests a floral leaf from *Polytrichum*. This appears to me by no means impossible; cfr. Goepert & Berendt's fig. 32 with the ♂ bract e. g. of *Pol. gracile* (Bry. eur., t. 421, fig. 7), or of *P. juniperinum* (ibid., t. 423, fig. 10).

Amber

Muscites Bertrandii Lignier.

1914 *Muscites Bertrandii* Lignier, V. Sur une mousse houillère à structure conservée. [Bull. Soc. Linn. Normandie, 6 Sér., VII, p. 128.]

Palaeozoic;
Stephanien;
silex de
Grand Croix

This is described as showing a partial transverse section of a stem, exhibiting parenchymatous tissue, the unistratose outermost layer with thickened walls, and rhizoids with *oblique* partitions. The evidence for its belonging to the Bryophytes seems rather slight, though I am not aware of any other suggestion having been made for it; and the figure certainly indicates a moss stem.

Muscites confertus Goepp. et Ber.

cfr. *Weisia conferta* Schimp.

Muscites dubius Goepp. & Ber.

1845 *Muscites dubius* Goepp. & Ber. Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 112, t. VI, figs. 25, 26; and Goeppert, Ueber die Bernsteinflora, p. 459.

Amber

Schimper in the Traité de Pal. Végét. makes no reference to this; from the figure I should

feel doubtful if it is a moss; possibly plumose feathers of a bird, or pappus hairs of a higher plant.

Muscites elatinus Sap.

cf. *Thuidium elatinum* (Sap.) Schimp.

Muscites elegans Goepp.

1853 *Muscites elegans* Goepp. Ueber die Bernstein-flora. [Monatsber. d. Berliner Akad., 1853, p. 459.]

Of doubtful affinity. Goeppert says of it "Ein höchst zierliches, 3 Linien langes Pflänzchen, ähnlich manchen *Mnium* Arten hinsichtlich der Insertion der fast gestielten, etwas $\frac{1}{2}$ Lin. langen Blättchen."

Schimper (Traité de Pal. Végét., I, p. 244) suggests that it may be a small Hookeriaceous moss.

Amber

Muscites fontinaloides Ung.

1852 *Muscites fontinaloides* Unger. Iconograph. plant. fossil. [Denkschr. d. k. k. Akad. d. Wissensch., Wien, 1852, p. 82, t. XXVII, figs. 3, 4.]

Schimper makes no reference to this. From the figure it must, I think, if a moss at all, which seems probable, almost certainly be a *Fontinalis*.

In schisto
margaceo
ad Parsch-
lug Stiriae

Muscites Hauchecornei Casp. & Klebs.

1906 *Muscites Hauchecornei* Caspary & Klebs, in Caspary, Flora d. Bernsteins. [Abh. Kgl. preuss. geol. Landesanstalt, N. F., Heft 4, p. 56, t. VIII, fig. 48.]

Syn. *Muscites serratus* Goepp. in sched., non *M. serratus* Goepp. & Ber.

Caspary can suggest no relationship. The figures strongly suggest a *Mnium* or *Mnioid* moss (cfr. *M. antiquorum* Card. & Dix.); the cells are described as isodiametric and irregular, $-.0085$ $-.0414$ mm. (? .014.)

Muscites hirsutissimus Goepp. & Ber.

1845 *Muscites hirsutissimus* Goepp. & Ber. Die im Amber Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 112, t. VI, figs. 23, 24; and Goepp. Ueber die Bernsteinflora, p. 459.

Schimper (Traité de Pal. Végét., I, p. 245) says of this that it is evidently a phanerogamous plant.

Muscites hypnoides Ung.

cf. *Hypnum Ungerii* Schimp.

Muscites intricatus Sap.

1863 *Muscites intricatus* Saporta. Etudes sur la végétation du Sud-Est de la France. [Ann. des Sc. nat. Par., 4^e sér., XIX, p. 30].

Saporta compares this with *Philonotis fontana*. The position must be considered extremely doubtful.

Muscites journeysensis Marty.

1903 **Muscites journeysensis** Marty, P. Flore miocène de Joursac. [Rev. Haute Auvergne, 1903, p. 18, t. I, figs. 4—6.]

Marty says that it suggests a *Fissidens* or *Conomitrium*; but this from the branching is quite out of the question. The thickness of the stem as shown in the enlarged fig. 5 appears to me to preclude a moss altogether, and I am inclined to think it more likely a phanerogam.

Muscites oeningensis Braun

cf. *Thuidium oeningense* (Braun) Schimp.

Muscites pereger Sap.

1862 **Muscites pereger** Saporta, Etudes sur la végétation du Sud-Est de la France. [Ann. des Sc. nat. Par., 4^e sér., XVII, p. 207.]

Schimper makes no reference to this. Saporta compares it at once with *Polytrichum commune* and *Dicranum scoparium*!

Muscites polytrichaceus Ren. & Zeill.

1885 **Muscites polytrichaceus** Renault, B. & Zeiller, R. Sur des Mousses de l'époque houillère. [Compt. Rend. Acad. Sci. Paris, C, p. 660]. Also in Ren. & Zeill., Flore Fossile de Commentry, in Bull. Soc. Indust. Min., 1888, p. 34, t. XLI. Described and figured by Jongmans, in Med. van de Rijksopspor. van Delfstoffen, No. 3, p. 11.

Supposed to be an *Acrocarpous* moss. Numerous stems with clearly defined, uninerved leaves, "alternate", e descr., and so figured. The texture and size seemed to leave no doubt of its being a moss. It is compared with *Rhizogonium* and *Polytrichum*; it has certainly nothing to do with the latter, and very doubtfully with the former.

It is figured also by Seward, Fossil Plants, vol. I, p. 239, fig. 51.

Muscites pulvinatus Sap.

1865 **Muscites pulvinatus** Saporta, Etudes sur la végétation du Sud-Est de la France. [Ann. des Sci. nat. Par., 5^e sér., IV, p. 32, t. I, f. 3.]

Hypnum armissanense Schimp., Traité de Pal. Végét., I, 248.

Schimper compares it with *Eurhynchium Stokesii*.

Palaeozoic,
Stéphanien
de Com-
mentry

Tertiary lig-
nites of
Armissan

Muscites redivivus Sap.

1862 *Muscites redivivus* Saporta, op. cit., 4^e sér., XVII, p. 207, t. II, f. 2.
 A Hypnaceous moss of doubtful affinity. According to Schimper the figure recalls somewhat *Eurhynchium Teesdalei*, but he considers it impossible to determine the genus.

Schistes
marneux
dans les
gypses
d'Aix

Muscites Schimperi Ung.

cf. *Hypnum Schimperi* (Ung.) Schimp.

Muscites serratus Goepp. & Ber.

1845 *Muscites serratus* Goeppert & Berendt, Die im Bernstein befindlichen organ. Reste der Vorwelt, I, Abt. 1, p. 111, t. VI, figs. 27, 28. Also Goeppert, Ueber die Bernsteinflora, p. 459.

Schimper, Traité de Pal. Végét., I, 250, suggests an affinity with the exotic genus, *Trichosteleum*, e. g. *T. Boschii* (Doz. & Molk.) This affinity is based solely on the ground of the appearance of papillae on the cells of the enlarged figure 28, — "les feuilles à bord denté auraient le dos couvert d'aspérités spiniformes". He adds that he thinks the figure inexact, the asperities being probably papillae, and being associated with rhomboidal cells, lax, and without a median nerve, they are distinct from all European species with papillose cells.

A careful examination of this figure, however, reveals no such asperities. What Schimper no doubt took for these are, I have no doubt, simply the marginal denticulations drawn so as to appear dorsal in one of the leaves. Moreover the plant from its size could not possibly have had leaves large enough for *Trichosteleum* or the allied genera; fig. 27, of a branch apex, containing about 20 leaves, is less than 1.5 mm. in length! Schimper's own suggestion of a *Fabronia* is without doubt the correct one; the size, the areolation, and the long and fine denticulations of the leaf, agree exactly with species of this genus, e. g. *F. octoblepharis* Schleich.; and fig. 28 might well have been enlarged slightly from the plate in *Bry. eur.*, Tab. 451, of this species.

Muscites setosus Sap.

1895 *Muscites setosus* Saporta, Etudes sur la végétation du Sud-Est de la France. [Ann. des sci. nat. Paris, 5^e Série, IV, p. 30, t. 1, t. 1].
Hypnum Saportanum Schimp., Traité de Pal. Végét., I, p. 247.

Tertiary
lignites of
Armissan

Muscites squamatus Brongn.

1828—1844 *Muscites ?squamatus* Brongn. Ad. Hist. des végétaux fossiles, p. 95, t. X.

Syn. *Lycopodites squamatus* Brongn. in Cuvier & Brongn. Descri. géol. des env. de Paris, p. 359, t. XI, fig. 3 (1822). And Brongn., Sur la Classification des Végétaux Fossiles en Général; Chap. 11; in Mém. du Mus. d'Histoire nat., VIII, p. 304; t. VI, fig. 1.

This is in all probability a Lycopod rather than a moss.

Muscites Sternbergianus Dunker is not a moss, but a *Sphenolepidium*.

Muscites tortifolius Casp. & Klebs.

1906 *Muscites tortifolius* Caspary & Klebs, in Caspary, Flora d. Bernsteins. [Abh. Kgl. preuss. geol. Landesanstalt, N. F., Heft 4, p. 57; t. VIII, fig. 49.]

Caspary can suggest no relationship. It is clearly a pleurocarpous moss. The leaves are figured as strongly toothed, the acumen strongly half twisted; approximately two-thirds of a millimetre in length, and deeply plicate — an unusual feature in leaves of such small size.

Muscites Tournalii Brongn.

cf. *Fontinalis Tournalii* (Brongn.) Schimp.

Najadita Buckman

1850 *Najadita* gen. nov. Buckman, J. On some Fossil plants of the Lower Lias, in Quart. Journ. Geol. Soc., VI, p. 415.

Gardner, on Mesozoic Angiosperms, Geol. Mag. III, 1886, p. 203, refers the three species here described to Bryophytes; but Miss Sollas (Quart. Journ. Geol. Soc., LVII, p. 307) places them with the Lycopods, and this seems to be generally accepted. Cfr. Zeiller, in Progressus Rei Botanicae, II, p. 179 (1908).

Schlotheimia tenuifolia Sternb.

Jongmans in Med. van de Rijksopspor. van Delfstoffen, No. 3, p. 214, refers to this. It is a genus of Calamites alliance, and has nothing to do with the moss genus *Schlotheimia* Brid.

Sporogonites Halle**Sporogonites** Halle.

Sporogonites Halle, gen. nov. A fossil Sporogonium from the Lower Devonian of Röragen in Norway; Bot. Not. 1916, p. 79; with text figure.

Sporogonites exuberans Halle.

1916 *Sporogonites exuberans* Halle, T. G. Lower Devonian plants from Röragen in Norway. [Kgl. Svensk. Vet.-Akad. Handl., LVII, p. 27; t. III, figs. 11—32]. Cfr. also Fleischer, Max, in Hedwig., LXI, p. 400.

This has been referred with some confidence to *Andreaea*, but it certainly belongs to no existing genus of mosses. The affinity with *Andreaea* is suggested from the longitudinal dehiscence of the capsule as suggested by vertical clefts in the wall of the sporogonium, but the resemblance ends there. It is in all probability — while possibly indicating the ancestry of the Bryophyta — not a true Bryophyte, but rather related — perhaps closely — to the genera *Rhynia* and *Hornea* recently described by Kidston & Lang (cf. Trans. Roy. Soc. Edinb. LI, p. 761, LII, pp. 603, 643, 831). The vegetative plant of *Sporogonites* is unknown, the large sporogonium, 6—9 × 3—4 mm., on a stalk at least 50 mm. high, resembles that of *Hornea* (rather than *Rhynia*) in the presence of a large columella, rendering the spore-cavity dome-shaped; the spores measure about 20—25 μ , those of the two genera in question being about 40 μ & 50 μ respectively; while *Sporogonites* differs apparently from both in the presence of longitudinal slits; though the capsule of *Hornea* appears to exhibit normally certain irregularities of structure on the capsule wall. It seems in the present state of our knowledge impossible to determine the position of *Sporogonites* more definitely than this.

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